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## ORIGINAL ARTICLES.

### MYOMECTOMY VS. HYSTERECTOMY.\*

BY ANDREW MCCOSH, M.D.,  
OF NEW YORK.

DURING the past ten or twelve years the surgical treatment of the pelvic organs of the female has happily become more preservative, or perhaps one might term it less destructive. Previous to this time it was the theory of most gynecologists, and on this their practice was based, that if either the tube or ovary were diseased both should be removed. Many operators went a step further and argued that if the tubes and ovaries were diseased it was best to remove all the pelvic organs. It is needless to quote from the text-books and journals of those days extracts indicating the necessity for the complete removal of ovaries and tubes, and even of the uterus, in cases in which to-day such an operation would be considered by many of us unjustifiable. While it unfortunately cannot be said that this change of view concerning the judicious preservation of the pelvic organs has been universally adopted, the general tendency is in this direction. The uterus with its adnexa is now but seldom removed where a less radical operation on ovaries and tubes will suffice to effect a cure. Cystic ovaries are not commonly, as heretofore, removed *in toto*, or at least the Fallopian tubes are saved in whole or in part. Every effort should be made by the modern surgeon to preserve sufficient at least of a woman's pelvic organs to prevent a sudden and premature menopause, even if it be not possible to leave the woman in a condition in which she will be capable of bearing children.

In cases of fibromyomata of the uterus less progress seems to have been made in the direction of preservation of organs than perhaps is the case in any other line of surgery. It is true that within the past few years attempts are being made by a few abdominal surgeons to be less sacrificial in their treatment of these cases, but the majority of operators still consider that a uterus which is the seat of injurious fibroid tumors is one which demands removal. I am not now referring to debatable cases, in which the tumors are small or cause but few symptoms, but to grave cases in which a woman's life or happiness is threatened by excessive hemorrhage or pain. From conversation with surgeons and from perusal of the proceedings of gynecological societies, one can not but be impressed with the fact that in such cases the rule of most operators seems to be extirpation. It is true that an article is occasionally read in which are reports of a few cases of myomectomy, but generally these are the excep-

tional cases, and to one article on this subject there will be read a dozen dealing with some minor detail in the operation of hysterectomy. The conclusion must naturally be drawn that in the practice of most surgeons myomectomy is but rarely done, its proportion to hysterectomy being about one in ten or even one in twenty. It is also true, however, that there is considerable difference of opinion, and consequently of practice, in regard to this question, as well as in regard to the question of any radical operation for uterine fibroids.

My own practice tends, I think, toward conservatism. Unless the fibroid is threatening a woman's life or is rendering her a semi-invalid, I have been inclined not to advise radical operation; at least such was my practice when I felt that the uterus must be sacrificed. Since, however, I have learned that in the great majority of such cases the uterus need not be removed, I am less loath to advise operation, especially in younger women. Even in such patients, however, I do not advise operative interference unless there be menorrhagia, pain or rapid growth of the tumor. In older women unless the symptoms be more severe, I generally advise delay in hopes that the menopause may bring relief, or a preliminary curettage is suggested. As a general surgeon I am not usually consulted about mild cases of pelvic tumors. In my private practice the patients are generally referred to me because of symptoms which demand relief by means of operation. In my service at a large general hospital the poorer classes generally apply only after failure of medical treatment, when they are much exhausted by pain or hemorrhage, or when the size of the abdomen drives them to seek operative relief. I mention this so that it may not be said that the cases which I encounter are mild ones, perhaps not in need of operation.

It has always seemed to me that the surgeon's advice to a woman with a uterine fibroid should be more or less influenced by what the operation shall accomplish for that woman. To the average young woman, it is a matter of grave importance to submit to an operation which will deprive her of her sexual organs. If there be a reasonable chance that her tumor can be removed without the loss of her uterus, ovaries, and tubes she will be much more apt to accept operative relief, and the surgeon will be much more justified in recommending such treatment than would be the case were the removal of these organs necessary. Apart from the dangers of operation, the removal of what a woman considers her womanhood is always to her a serious consideration, and fear of this will often doom her to a life of semi-invalidism. If she can be assured that the probabilities are great that the tumors can be removed

\* Paper read before the American Surgical Association, Albany, June 3, 1902.

and her organs saved, she and her family will be much more willing to agree to submit to an operation. For example, let us consider the young unmarried woman; no one will deny that the removal of her uterus with her ovaries is a calamity. The artificial menopause that appears in advance of its proper time often produces months or years of physical and mental discomfort. Brooding over her loss and depression of spirits, perhaps concealed from her family are not unnaturally produced by the knowledge that she is in a measure unsexed. She is apt to shun the intimate society of men, for she feels that she cannot, probably, marry the man of her choice. If marriage seems imminent, she must face the ordeal of telling her lover that she is no longer a perfect woman, and for her child-bearing is impossible. Take, on the other hand, a married woman under forty, what a blow must the loss of her sexual organs be to her and her husband; and even if a certain estrangement be not the result, she is apt to be in constant dread that she may lose some of his affection. On the other hand, however, it is argued that she is saved from a life of suffering, but the price for such relief is great, if it be not absolutely necessary. In the case of elderly women the situation is of course quite different. The removal of the uterus does not in them result in a premature menopause, and in women well past forty years of age a hysterectomy is generally to be preferred to a myomectomy.

In my own practice myomectomy is becoming more and more frequent and hysterectomy correspondingly less frequent. I cannot see why the uterus should be totally removed simply because within its structure are located one or more tumors benign in character. Why should we make the uterus an exception? Would we consider it good surgery to amputate an arm simply because in its muscles are located one or more fibromyomata? Or because a cataract appeared in the eye would we think of enucleating the organ? Most certainly not, but on the contrary we would make every effort to save the limb or the organ, and in order to do as little damage as possible, we often resort to the most elaborate plastic operations. It seems to me that we should employ similar patience and skill to save the uterus. Very often this can be done if we only dismiss the impression, which years of reading and practice have made upon our minds, that given a uterus with fibroids demanding removal, *ergo* hysterectomy. Instead of adopting this narrow view we should consider it of the greatest importance that the uterus of a young woman should be saved, and in striving for this end we should employ all our skill in mapping out a plan of procedure which will obviate the sacrifice of such an important organ. If we adopt this view, I feel sure that in the future thousands of women will preserve an organ which in the past has so often been sacrificed. I feel sure that I am not exaggerating this point. In my practice six years ago myomectomy bore toward hysterectomy the ratio of 1 to

23; in 1900 the ratio of 5 to 27; and in the past year the ratio of 22 to 17. It is now my custom to treat the uterus just as I would treat any other organ, for example the stomach or kidney. If it be the seat of malignant disease, I make as complete an extirpation as possible. If it be the seat of benign tumors I remove the tumor or tumors, striving to injure as little as possible the organ itself.

*Methods of Operation.*—For the removal of uterine fibroids the vaginal route offers, in a certain number of cases, a suitable approach. If the tumors are subserous, moderately small and not very numerous, the uterine body can be without much difficulty turned into the vagina through an incision, anterior or posterior to the cervix, and the tumors extirpated. The application of this method is, however, limited. Following vaginal celiotomy there probably is less shock and the period of convalescence is shorter. The scar is invisible and the dangers of a resulting hernia are practically avoided, but at the present day the risk of such a complication following a clean abdominal incision should be almost *nil*. This method, however, is apt to be attended by the distinct disadvantage that less opportunity is offered for the thorough inspection of the pelvic organs, and less facility for the judicious selection of parts requiring removal either partial or complete.

Apart from the difference in the incisions, the technic of myomectomy by the vaginal is similar to that by the abdominal route, and it is with the latter class of operations that this article especially deals.

An abdominal incision through which the uterus and its tumors can be thoroughly explored and delivered is made usually in the median line. Through this the uterus is drawn out by the hands, volsellum forceps, or Thomas cork-screw. The intestines are carefully walled off from the pelvis by pads of gauze, the patient being in the Trendelenburg position. In elderly women the uterus with its tumors is then removed, the cervix being generally left attached to the vagina; in younger women a careful examination is made to determine whether it is possible to remove all the fibroid tumors and yet leave sufficient uterine tissue to form a useful organ. I am not much influenced by the location of the tumors as regards their relation to the uterine canal. Of course, if the tumors are pedunculated or subserous, the operation is comparatively simple; but the mere fact that the tumor is interstitial or submucous influences me but little in deciding whether the operation shall be a myomectomy or a hysterectomy. The size and number of the tumors is also more or less disregarded. There are of course certain cases in which myomectomy is either impossible or too dangerous; these are apt to be cases in which the uterus from the cervix to the fundus is infiltrated with scores of small fibroids, perhaps extending into the broad ligaments. There are also of course cases in which the tumors are of very large size and in which



hysterectomy must be the operation of choice. As will be seen, however, from the report of some of my cases, tumors weighing 6, 8 and 10 pounds have been removed, and frequently their number has exceeded twenty.

Myomectomy having been selected as the operation to be performed, or at least attempted, an effort is made from the appearance of the mass to determine the position as nearly as possible of the normal uterine tissue. Inspection combined with careful palpation will often enable the operator to locate the tumors. The position and attachments of the adnexa are often landmarks of importance, though these are sometimes so distorted and twisted that they may be

sessile tumors will depend somewhat on their size and number. If their number be small and if they be well isolated from each other, a separate incision is made through the uterine tissue directly down on the tumor. It matters not whether it be subserous, interstitial or submucous. If the tumor be small, it is grasped with volsellum forceps and forcibly torn out of its bed. If it be large, it is rapidly enucleated with the fingers, considerable force being employed in order to accomplish its rapid removal. With the exception, perhaps, of pressure by the assistant's fingers on the edges of the cut muscle overlying the tumor, no attempt is made to prevent hemorrhage until the tumor has been removed.

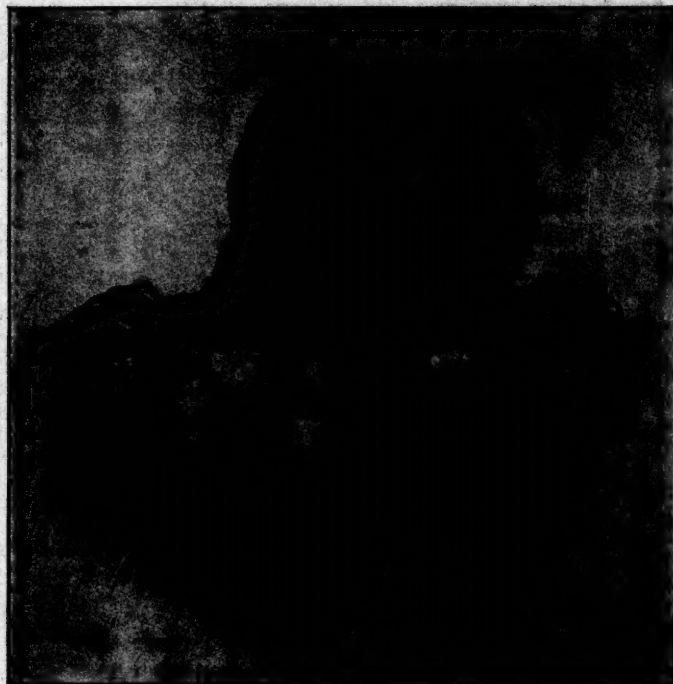


FIG. 1. Case 1. Who later Became Pregnant. Showing also Incisions for Removal of Fibroids.

misleading. The recognition of the relation which the tumors bear to the uterus, while of advantage, is not of essential importance, as frequently the entire mass must be split open from the fundus down to near the internal os. The recognition will, however, enable the operator to spare unnecessary section of the uterine muscle, and will aid him in determining in which direction the incision is to be made. If the tumor or tumors be pedunculated or subserous without encroachment on the uterine canal, their exact relationship is easily determined, and their removal is simple. If the tumor be pedunculated, an incision is made around the base of the pedicle, and the edges of the wound approximated by one or two layers of catgut sutures.

The method of procedure in the enucleation of

If this has been forcibly and rapidly done the hemorrhage is very slight, and in a few seconds the vessels generally contract and all bleeding ceases. Occasionally a hemostatic clamp is applied, but usually this is unnecessary. The remaining tumors are then attacked and removed in the same manner. All tumors are generally enucleated before any of the cavities left by their removal are sutured. The object of postponing their closure is to allow of further contraction of the uterus, which generally begins at once and continues for some time.

The method of closure of cavities from which tumors have been enucleated will of course depend upon their size and depth. It is wise to pass the sutures well down to the bottom of the wound, and often several rows will be required.

The deepest layer, which passes down to the floor of the cavity, includes  $\frac{1}{2}$  to 1 inch of each wall. If the remaining depth be  $\frac{1}{2}$  inch or less, a second layer which includes the serous coat will suffice. If more than  $\frac{1}{2}$  inch remain it will be well to employ three rows. (Fig. 4.) The suture I prefer is a continuous one of moderately fine catgut (No. 2). The sutures should be tightly drawn, as otherwise in a few minutes, owing to the contraction of the uterus, they will be found to be loose and slight bleeding may result. If the tumor be large it is better not to incise the tissue overlying the center of the tumor,

addition to the mucous membrane, approximates about  $\frac{1}{3}$  inch of adjacent uterine tissue. As a rule, I have included the lining membrane of the uterine canal in the suture and have not found that any bad result has followed. Cultures from the interior of the uterus are almost invariably sterile. We have found that in one only out of 23 cases did any growth develop, and this was not pyogenic, and may have been due to accidental contamination. In one other of my cases, in which a fetus more or less macerated was found in the uterus, a growth developed. Of course if the interior of the uterus suggests in-

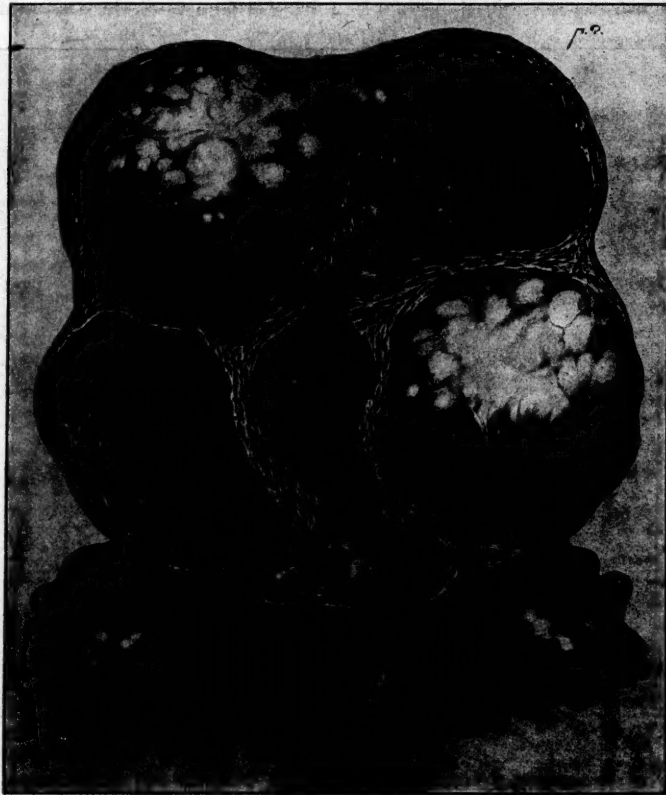


FIG. 2. Case 13. Showing Uterus Split Open through Anterior Wall.

as if this be done, there will be left two useless, redundant flaps, which have later to be curtailed. For this reason, time will generally be saved if the greater part of the overlying uterine tissue (capsule) is removed with the tumor by means of a circular incision around what appears to be the line of junction of the tumor with the uterus (Fig. 1). Very often after enucleation of the tumors it will be found that the uterine canal has been more or less opened. Under such circumstances, after curettage of the entire endometrium by the insertion of a sharp spoon or curette through the opening in its wall, its edges are closed by a continuous catgut suture, which in

fection, it would be well not to include the lining membrane in the suture, and in such a case it is also well after dilatation of the cervix to insert a small strip of gauze or rubber tissue, which passes downward into the vagina.

If tumors be multiple and more or less distributed throughout the uterus, there must be a different plan of procedure; the uterus must be more or less split open from the fundus downward on either its anterior or posterior surface, or it may be necessary to completely divide it into halves as far downward as the inner os, each half remaining attached to its broad ligament. In either case the interior of the uterus is freely ex-



posed to view. This free exposure is sometimes deliberately planned, at other times it is merely the result of enucleation of one or more tumors which had encroached on the canal. With the uterus thus laid open every part can be readily palpated and tumors of very small size can be easily felt. Careful search is made by palpation of the uterine wall between the finger and thumb, and all tumors, no matter how minute, are removed by section through the overlying muscular tissue, either from the exterior or the interior. If there be but a suspicious hardness, it is better to cut into it and ascertain if there be not a commencing fibroid tumor. Interstitial tumors are but seldom single, and usually from 5 to 20 tumors are found and removed. As many as 36

the belly of any large muscle, except that in the case of the uterus the procedure is more simple on account of the firm consistency of the muscular structure. An endeavor is always made to preserve those portions of the uterus to which the broad ligaments and adnexa are attached and also as much as possible of the uterine canal with its lining of mucosa, though occasionally the upper part of this must be removed and at times little of it above the internal os remains, and to form the new uterine body there may be but thin flaps of muscle attached on each side to the broad ligaments and adnexa. When I first began to do myomectomies, especially when the uterus was more or less completely divided into two halves, I was often worried by the unshapely appear-



FIG. 3. Case 7. Showing Uterus Split Open through Anterior Wall.

were removed from one uterus, and yet a very presentable organ was left.

The appearance of the uterus which remains after enucleation of the various tumors is often very ragged and unpromising. The cut and torn edges must now be trimmed and pared in order to secure wound surfaces as smooth and as regular as possible. Tags and shreds of tissue must be freely cut off, as owing to the muscular hypertrophy of the uterine wall there is generally left a full abundance of tissue from which to mold a uterus of more than normal size. The endeavor should be to restore the organ to as near its normal size as is possible, and one should not fear to trim freely and sacrifice as much of the tissue as will secure even surfaces and exact approximation.

The treatment should be very much the same as we would adopt were a tumor removed from

ance of the organ which I was trying to save, but I soon learned that the uterus after careful trimming of its redundant tissue and subsequent careful suture continued to contract and assume a more and more normal shape and size up to the very close of the operation; and the examination of such uteri months and years later has convinced me that Nature continued to mold these organs into shapes that were not far from normal.

The question of hemorrhage practically never troubles me. At the beginning of my experience with these operations I often passed an elastic ligature, to be tied in case of need, around the lower part of the uterus. I soon found, however, that this was never needed, and of late never think of even asking to have one among my instruments. At first, also, my assistants were inclined to grasp the broad ligaments in their fin-

gers to prevent hemorrhage, but I long since learned that this also was entirely unnecessary. I now employ but little hemostasis. Usually the uterus can be freely cut or split open, with but little loss of blood, and in a few seconds practically all bleeding ceases. At times a few artery clamps are applied to spurting vessels, and occasionally the cut edges or flaps must be compressed with the fingers for a half minute or so. When the incisions are made close to the attachments of the broad ligaments one or two vessels of considerable size may need attention. Even if hemostatic forceps must be applied, they can be safely removed without ligation of the vessels at the end of a few minutes. Two of my operations have been on pregnant uteri, and even in these

(Fig. 5.) As a rule the broad ligaments have not been disturbed, though occasionally a tumor must be shelled out from between their layers. This, however, is generally accomplished from the uterine extremity and the cavity thus made is closed by the reconstruction of the uterus itself. Should, however, either layer have been split for removal of a tumor, it is carefully closed by suture; indeed, every effort is made to leave absolutely no surface uncovered by peritoneum. In some cases in which there has been extensive laceration of the sides of the uterine canal, or in which there may be a tendency to oozing of blood, a narrow strip of rubber tissue or even gauze is passed down through the cervix into the vagina, its upper end resting in the uterine canal. This



FIG. 4. Case 7. Showing Suture of Uterus after Removal of Fibroids.

two cases the bleeding could not be called serious or even troublesome. Freedom from hemorrhage depends more or less on rapidity of enucleation of the tumors. If care be taken to secure every bleeding vessel, much blood will be lost and the corresponding shock will be considerable; but I feel sure that if fear of hemorrhage is entirely cast aside and bold incisions, with forcible and rapid enucleation be practised the loss of blood will be slight.

For the reconstruction of a uterine body from what appears to be a mass of more or less unsymmetrical muscle, several rows of continuous catgut sutures are employed. The cut and torn edges of the endometrium are first united together, with some of the adjacent muscular tissue, and the succeeding rows are employed exactly as has been described for the closure of a cavity out of which a tumor has been enucleated.

is removed in about thirty-six hours. Before the abdomen is closed the patient is lowered from the Trendelenburg position in order that one may be sure that there is no bleeding. Occasionally an additional suture is needed. It is often gratifying, when the uterus has been dropped into the pelvis, to observe what a well contracted and comparatively shapely organ has been constructed out of what fifteen minutes previously had appeared to be a more or less ungainly mass of ill-treated uterine tissue.

The dangers of myomectomy are certainly as great as are those of hysterectomy. With the exception of the complications apt to attend or follow an hour's anesthesia, there are three sources of danger, hemorrhage, shock and sepsis. As regards the first, I have never in forty-seven cases seen a loss of blood which could be considered even as severe, and certainly never serious.



Shock is generally very moderate, though in perhaps 10 per cent. of my cases it has been severe, but has never ended fatally. Sepsis in a slight degree may have been present in a certain number of the cases, or rather some form of sapremia may have caused an elevation of temperature of two or three degrees, which in a few cases has persisted for several days following the operation. In none of my cases has it ended fatally and in none has it resulted in any pus. I have noticed, however, that following myomectomy there is for four, five or six days a range of temperature certainly one degree higher than that following hysterectomy. As regards the accidents which may follow any severe operation, pneumonia has appeared in five of my cases, in two ending fatally, though in one of these there was a

siderable pain is complained of during the first two days.

(b) Pain. With one exception all cases are practically free from pain. The one patient who still complains is a nervous woman and is one of those who have painful menstruation.

(c) Pregnancy. Of the thirty-two patients twenty-one are married women. Three of these have for the first time become pregnant, two having been delivered of live children at term, the other being five months' pregnant.

(d) Recurrence of tumors. I have been unable as yet to learn of any recurrence. In this respect, the uterus does not differ from other organs. By some surgeons the possibility of recurrence of the tumors is used as an argument

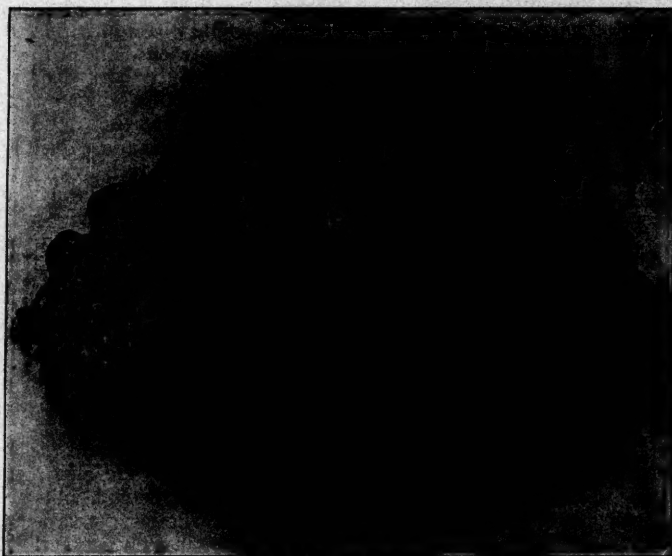


FIG. 5. Uterus Divided as far as Internal Os. Commencement of Suture after Trimming of Uterine Walls.

complication of a fatty liver and nephritis. These two cases constituted my only fatal ones. In this respect my experience after hysterectomy has been very similar, and it has always seemed to me that pneumonia follows more frequently operations for uterine fibroids than it does almost any other class of operations, with the exception of course of those done on the air-passages.

In considering the advantages of myomectomy over hysterectomy, one naturally asks for the ultimate results. I have been able to follow thirty-two patients. The results are as follows:

(a) Menstruation. Without exception menstruation has appeared with regularity. In twenty-seven cases it may be termed normal, varying from two to seven days. In three cases it has been somewhat excessive, but in one of these after a cureting done fifteen months after the myomectomy, it became natural. In two cases con-

against myomectomy, but the same objections are valid against operations for the removal of any other new growth or foreign body.

Brief histories of the cases in which pregnancy occurred are as follows:

*Case I.*—L. B., thirty years old, married. Never pregnant. For eight years had suffered from severe menorrhagia and considerable pain. Twice curetted without much benefit. Myomectomy January 26, 1899. Seven tumors removed, 5 subperitoneal, 2 interstitial or submucous (Fig. 1); weight of largest, 6 pounds. In February, 1901, became pregnant. Normal confinement in November, 1901. Health excellent.

*Case II.*—R. G., thirty-eight years old, married. Never pregnant. For seven years menorrhagia, severe pain due to local peritonitis. Myomectomy October 26, 1899. Three interstitial fibroids removed; largest 6x4x4 inches; total

weight, 8 pounds. Pregnant October, 1900. Normal confinement June, 1901. Health good.

*Case III.*—M. M., thirty-four years old, married. Never pregnant. For five years severe menorrhagia and considerable pain. Myomectomy March 12, 1901. One large interstitial fibroid removed; weight, 5 pounds; uterus was completely divided, gauze drain through the cervix. Became pregnant January, 1902.

In conclusion I would offer the following:

1. In young women with uterine fibroids demanding removal myomectomy should always be the operation of choice.

2. Myomectomy is possible and advisable in the great majority of cases of fibroid tumors in young women.

3. For the safe performance of myomectomy the strictest asepsis is needed, otherwise it becomes a most dangerous operation.

4. In the operation of myomectomy fear of hemorrhage should be cast aside and bold and rapid methods should be adopted.

5. The operation is attended by the same danger to life as is hysterectomy.

6. The ultimate results as regards menstruation, pain and pregnancy, are satisfactory.

#### THE RELATIVE ADVANTAGES OF THE COMPLETE AND PARTIAL HYSTERECTOMY.\*

BY E. E. MONTGOMERY, M.D.,  
OF PHILADELPHIA:

THE student of to-day is so impressed with the simplicity of the operation of hysterectomy, whether partial or complete, that he can scarcely understand why its details should not have been apparent to the pioneers in this field of surgery. Probably the painstaking progress of surgery is nowhere made more evident than in the realm now under discussion. The instability of the cervical tissue for the formation of a pedicle was early recognized, but at the expense of many lives in cases where its ligation and intraperitoneal treatment were essayed. The frequency of disaster, under such circumstances, caused the conclusion that the uterine stump must be subjected to extraperitoneal treatment and to the instant observation of the operator.

At a time when the clamp was being discontinued for the pedicle in ovariectomy, it soon was regarded as the *sine qua non* in the operation for the treatment of uterine myomata.

The severe traction upon the stump of the cervix and vagina, the prolonged convalescence occasioned by the sloughing and retracted stump, the weakened ventrum and increased tendency to ventral hernia, and the difficulty in preventing the danger of sepsis, stimulated efforts to obviate these difficulties by the entire closure of the abdominal wound.

This naturally was accomplished by following out one of two lines of procedure: either the ligation of the pedicle and its treatment within the abdomen, or the entire removal of the uterus.

As is frequently the result, we find a number of men working toward the same end, whose minds are nearly simultaneously illuminated, and consequently a number who claim the credit for its successful development. Thus, Goffe, in April, 1890, describes an operation which he had first performed in May, 1888, in which he secures hemostasis by transfixing anteroposteriorly the cervix, tying each lateral half and covering the stump with peritoneum. The uterine vessels were necessarily secured by these ligatures.

Baer, in October, 1892, describes a perfected procedure which he had first employed in October, 1891. In this operation he employs no ligatures to the stump of the cervix, but controls bleeding by ligating the uterine artery upon either side of the stump, thus necessarily limiting its circulation. With no intention to disparage either the originality or skill of either of these gentlemen, I would direct attention to the fact that they were both preceded in much of the detail of the procedures which bear their names. Fully two years before Goffe's first operation, that brilliant genius whose life record was too short, Charles T. Parkes of Chicago, April 13, 1886, in operating for myoma uteri, ligated the portions of the broad ligaments containing the ovarian arteries, and clamped the remaining portions, removed the uterine mass above the internal os, and thoroughly applied the thermocautery. This controlled all the bleeding excepting from a spurting artery upon either side, which was isolated and ligated. His patient recovered. Again, in 1887, he tied the uterine arteries, cauterized and dropped back the uterine stump, and secured a second recovery.

In September, 1886, Etheridge reported a case of removal of a myoma uteri in which the uterine arteries were ligated and the peritoneum sutured over the stump. He also mentions the employment of a serrenceud, but his article does not make plain whether it was a temporary expedient.

Eastman, in February, 1887, removed all but the cervix, ligating the ovarian arteries, and completing the remainder of the procedure until the cervix was reached by enucleation.

Polk, in a discussion May 21, 1889, reports Stimson as ligating the isolated uterine arteries, and Tuttle, in discussing partial hysterectomy January 15, 1889, suggested that it would be easy to raise up the uterus and pass with a suitable instrument a ligature beneath the uterine artery.

It might seem that these gentlemen, living in the same city, may have profited by Goffe's method, and anticipated him in making it public, but we find that Dr. Goffe was still in the spring of 1889 transfixing the pedicle, and the nearest he came to the separate ligation of the uterine artery prior to the publication of this paper, was in his third case after the ligature upon one side had slipped and he was compelled to quilt the surface together against the side of the stump. In the last 10 years the operative procedure has undergone many modifications, as working down upon one side, cutting across the cervix and pulling the organ away upon the other, a plan of operation of

\* Read before the American Gynecological Society.



especial value when one broad ligament is occupied by an intraligamentary fibroid. It enables the operator to remove the growth with the least danger to the ureter upon the affected side. In the majority of cases the operation can be expeditiously performed by pushing one blade of large compression forceps through the broad ligament from behind forwards, beneath the round ligament. When each side is thus secured the broad ligament is cut between the fundus and forceps, and any bleeding vessels from the uterine side can be seized by small forceps. The peritoneum is cut through above the bladder and with the latter pushed down. Not infrequently the uterine arteries or the anastomotic arteries can be recognized and seized with forceps, after which the cervix is cut through. If bleeding from the stump occurs, a ligature may be passed upon either side of the pedicle which can be tied above the forceps that were placed upon the anastomotic artery. The upper portion of the ligament external to the forceps, should be crushed with the angiotribe, and in the groove thus formed should be tied with chromic catgut. The redundant portion of the ligament should be trimmed. The peritoneal surfaces should now be closed over the stump in such a way as to turn out of the peritoneal cavity all ligatures, and at the same time the cervix may be raised up.

The other alternative that we mentioned, complete hysterectomy, likewise attracted the minds of a number of progressive operators. Dr. Mary A. Dixon-Jones suggested pan-hysterectomy before the New York Pathological Society in November, 1887, and carried the procedure into effect in February, 1888. She amputated the affected uterus above the cervix, which was secured by a serrenœud, and then completed the operation by the vagina, securing the broad ligaments by lock forceps, which were guided into place by the fingers from above. The same plan of procedure was suggested by E. C. Dudley before the Chicago Gynecological Society in December, 1887.

Crofford of Tennessee in March, 1889, removed the entire uterus for fibroids and employed the *ecraseur* to sever the broad ligaments.

Eastman did the same operation in August of the same year, but used ligatures to secure the ovarian and uterine vessels. In later years he has resorted to enucleation, and in closing the pelvic wound he exercises particular care to secure the sides of the vagina, the importance of which he emphasizes by asserting that it is as desirable as the proper union of the abdominal aponeurosis, to avoid hernia. Where this procedure is neglected the vagina will prolapse, causing cystocele and rectocele.

Of all the many devised procedures for performing pan-hysterectomy, that one devised by Doyen seems to the writer the most satisfactory. It is hardly necessary to say that it consists in raising the uterus with the enclosed tumors through an abdominal incision, and having it held by an assistant well over the symphysis, while an incision is made with scissors through

the cul de sac upon forceps which were previously placed in the vagina. Through the opening thus formed the cervix is seized, drawn upward and severed with scissors from its vaginal attachment. With slight pressure with the finger the cervix is easily drawn away from the bladder and torn from the broad ligaments. The uterine arteries are generally laid bare and can be seized before bleeding, or upon the first spurt. The uterus is thus pulled upon until the vesico-uterine pouch is reached, which may be broken through, and the uterus is only attached by that portion of each broad ligament which contains the ovarian artery. This is seized with compression forceps external to the ovary and the uterus cut away. The broad ligaments are crushed with the angiotribe external to the forceps and ligated with chromic catgut in the groove. The uterine arteries are ligated with the same material, and the peritoneum closed over the vagina with continuous catgut suture. This suture should be so introduced as to draw up the vagina at each lateral angle.

For the partial hysterectomy it has been claimed that it is more quickly done, gives a better pelvic floor, a more natural vagina, and affords less danger of sepsis.

By the method just suggested, the operation is, in my judgment, much more expeditiously performed. With the vagina properly secured, it is difficult to understand why the retention of the small portion of the cervix should either form a better vagina or lessen the tendency to senile atrophy. With the retention of the cervix it is difficult to obviate the formation of dead space in which serum or blood accumulates, and which from its proximity to the bowel may readily become infected, but when the cervix is removed, there is left a funnel-shaped cavity which drains into the vagina. The advantages we would claim for the complete operation are: Expedition in performance of the operation; complete and secure hemostasis; increased freedom from septic infection; and the entire removal of an organ, the retained portion of which may be the source of subsequent degeneration.

#### WOUNDS, WITH A DISCUSSION OF WHAT CONSTITUTES RATIONAL TREATMENT.\*

BY FREDERIC GRIFFITH, M.D.,  
OF NEW YORK;

SURGEON, BELLEVUE DISPENSARY; FELLOW OF THE NEW YORK ACADEMY OF MEDICINE; ASSISTANT SURGEON AT THE NEW YORK POLYCLINIC SCHOOL AND HOSPITAL; ASSISTANT SURGEON (G.-U.), NEW YORK HOSPITAL (HOUSE OF RELIEF).

THE subject of wounds must ever remain of great interest to the surgeon, for the consideration of them in one form or another makes up the bulk of his work in practice. My purpose is to write with especial reference to the conditions governing the healing of granulating wounds.

A wound, as commonly defined, is a solution of continuity of the soft parts. Direct mechanical violence is usually implied as being the acute

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cause of wounds but microbic action in the form of ulceration is likewise able to cause a chronic form of wounding. Besides being acute or fresh, chronic or old, wounds, according to their relation to the body surface, are designated as open, when the skin or mucous surface is divided proportionately to the tissues beneath, and closed or subcutaneous, when there is little or no break in the epithelial tissue covering.

Classified descriptively, wounds are contused, lacerated, incised, punctured, poisoned and burned. Owing to the teaching that gunshot injuries should always be probed for the purpose of locating and removing a lodged missile or fragments of clothing or other extraneous matter which might be carried past the point of entrance, it was deemed necessary by the older writers to specially designate them; wounds from this source are, however, easily classified under the heads of contused, lacerated or burned. Grazing missile wounds and the form of friction wound known as a brush burn will also naturally come under the divisions of either contused or burned wounds. Since discovery of the part which various forms of pus micro-organisms play in complications of wound healing was made, the condition known as poisoned wound is generally restricted to the injuries inflicted by poisonous snakes and animals, while the term "infected" is used indiscriminately when referring to all forms which have become contaminated by germ life.

The pathology of wounds is the pathology of inflammation, which, with the complications arising therefrom, ranges the entire field of disease change. According to the nature of the implement causing it will the kind of wound produced be determined; falls and blows from blunt instruments cause subcutaneous wounds of a more or less contused nature. Sharp instruments give rise to open wounds and may be simple stab, punctured, or incised, or when more complicated, be contused and lacerated. Punctured wounds are usually deeply incised in character and present some contusion; tooth wounds partaking of the same nature. Contusions follow to a degree all wounds, whether open or closed, due to blows, and are manifested by an area of necrosis which varies according to the force of the blow, the passage of the keenest knife-blade through the tissues of the body leaves behind a track of destroyed cells.

In severe cases of contused and lacerated wounds the injured parts are frequently benumbed and paralyzed so that the patient feels no pain.

The size of a wound does not determine its importance, for a minute break in the skin or mucous surface may allow infection which will prove fatal to the life of the individual concerned. Other factors which lend to the importance of wounds are, location, depth and the condition of the borders. Penetration into joints, cranial, thoracic, or peritoneal cavities add greatly to danger of wounds of these parts from shock or infection.

Local effects of wounds give rise to impairment

of function, pain, gaping, when open, hemorrhage, infection taking place, active inflammation followed by suppuration occurs, ulceration, gangrene, erysipelas, tetanus, or diphtheria.

The early constitutional symptom of wound is shock, later conditions, save that of embolism from comminution at the time of injury, will depend upon the nature of the bacteriological infection supervening.

Shock, according to Dr. Shrady, is a jar to the equilibrium of the entire sympathetic system, of which mere pain is oftentimes an insignificant part. Mitchell, Morehouse and Keen add to this enfeeblement of the heart's action through the mediation of the medulla oblongata and the pneumogastric nerves, or to a general functional paralysis of nerve centers, both spinal and cerebral, or finally to combination of both causes. Mr. Longmore characterizes it as the instinctive emotion of alarm which supervenes upon an injury and which he noted particularly after gunshot wounds.

Contusion by pressure is well illustrated in some cases of compression during child-birth; the mother's vagina and the child's scalp showing the effects. Burns and scalds, lacerated and contused wounds such as occur in machinery and railroad accidents, are also commonly followed by this condition. Shock is the commonest cause of early death after an injury, and while young people react very well and females better than males, infants and nervous women are very susceptible to its influence.

The condition, now well recognized, which followed wounds where much cellular tissue is involved, known as fat embolism, in which escaping oil globules from crushed fat cells with the debris enters the circulation, causing obstruction, was previous to the last five or ten years set down to shock.

A degree of loss of function after wounding of a part follows as a necessity, the continuance depending upon the tissue and the extent of the injury.

Pain is a generally constant symptom following wounds, but the amount varies with the locality; wounds of the face and extremities being more painful than those of the trunk. The state of the individual's mind at the time of wounding is also a factor in determining the amount of pain felt. From abstraction or when laboring under great excitement at the time of wounding, pain may be held in abeyance; it is usual, however, for it to come on at once and continue until the parts are put at rest. Nerve trunks severed in wounds may, after the first agonizing pang is felt, cause adjacent parts to become painless; later, owing to inflammatory reaction extending along the trunks, pain will develop, becoming after a few days severe and continuous.

Gaping in open wounds depends upon the tissues affected and the direction of the wound. Nélaton has given the following order in which tissues retract, namely, skin, elastic tissue, cellular tissue, arteries, muscles, fibrous tissue, nerves,



cartilage. Tension also affects the amount of retraction to a degree. In a case which I saw of cellulitis of the arm extending from the shoulder to the wrist of a laboring man, and in which a single incision for purposes of drainage from top to bottom along the back of the arm had been made, gaping at the elbow was full four inches in extent. The fact that direction of the wound in relation to the muscular fibers of the parts varies the amount of retraction, is taken advantage of by Dr. McBurney in his operation upon the abdominal wall. By incising each layer separately in the direction of the muscular fibers involved he secures least strain and gaping of the operative wound. In general wounds made parallel to the long axis of the body gape less than those which are at right angles or transverse.

Bleeding accompanies all wounds, though the amount varies with the location and the extent of the injury; wounds of the face, from the number of vessels present, and of the scalp owing to the dense structure which in addition to vascularity allows little contraction of the severed vessels, are noteworthy from the free hemorrhage following their infliction. Lacerated and contused wounds are followed by comparatively little loss of blood, owing to the fact that torn and twisted vessels bleed less than those which are smoothly cut.

Inflammation being closely associated with both the pathological and reconstructive processes, it was impossible until the discovery of the factor of pus-micro-organisms, to make a correct deduction of when the destructive gave way to the restorative function.

To properly understand the healing of wounds of any sort it is necessary to notice particularly the rôle which inflammation plays in the reparative process. Formerly considered to be a disease distinct in itself, writers upon this subject, while differing in their explanations of some of the accompanying phenomena, are to-day generally agreed that inflammation represents a series of structural changes following the reaction of a part to an irritant. While the completed cycle occurs most often under the influence of micro-organisms or their products, any form of irritation is sufficient to excite some of the phenomena. Wound healing, therefore, becomes a process of balancing between a mechanical change in the relationship of tissue-texture or destruction of it, and repair. Considered in this light the process is simplified, and the principle, being the same for all forms of wounds, becomes one of mere adaptation.

For purposes of demonstration we will take a case of incised wound as a typical example of what occurs during wound repair. Assuming a healthy body with a clean-cut wound in which the parts are free from germ infection, foreign bodies or clotted blood, and the several cut tissues have been replaced in correct apposition, after a period of quiescence varying from a few moments to a number of hours, a preliminary state occurs which Cheyne observed after making an

incision in a frog's foot placed on the stage of a microscope, verified by other observers. He says that in the immediate neighborhood of the wound the circulation is arrested and the movement of the pigment ceases; at the margin of the stasis the blood passes through the capillaries slowly and with difficulty, while the blood vessels in the neighborhood are dilated, and there is increased flow of blood. Exudation of serum and migration of corpuscles takes place, and then the activity subsides and the process of repair commences by entanglement of corpuscles in the *liquor sanguinis*. Coagulation occurs, or in other words the wound surface becomes covered with lymph. Organization and cicatrization completes the process.

Healing of wounds has been particularly studied by Thiersch, Gassenbauer, Recklinghausen, Ziegler and Marchand, and while some counting granulation as a distinct process, it can writers distinguish two kinds of wound healing, be shown that granulation is a mere excess of that which takes place after agglutination in a coapted, incised wound. Tillmanns, describing the macroscopic phenomena occurring in this form of healing, commonly called healing by primary intention, states that the borders of the wound become agglutinated by a coagulum made up of blood and lymph, which during the course of the next four to eight days causes a definitely established union to take place. The coagulum in and around the wound spaces becomes replaced by new cells and blood-vessels, the former of which gradually change into the fibrillar connective tissue making up the cicatrix. In the case of small wounds or slight loss of substance, there is usually developed as a result of coagulation, a crust beneath which the completed healing of the wound takes place. Skinning over of the wound proceeds from the borders by proliferation of the cells of the rete Malpighii and of the sebaceous glands, if the latter still exist in the surface of the wound. The young cicatrix at first forms a fine red line which gradually becomes white and softens, so that the scars of many wounds which unite by primary intention often disappear in the course of time. Where loss of substance requires that space should be filled up, as in badly contused and lacerated wounds, or where there has been loss of tissue and it has been impossible to obtain direct adhesion of the divided parts and also in those which have become infected by micro-organisms, healing by second intention or granulation formation takes place with phenomena somewhat as follows: Until the end of 24 hours the various tissues may be distinguished; later the outline is obscured by the gelatinous lymph and by a process of fatty degeneration. The wound being filled up with a reddish yellow fluid, a mixture of blood-serum and lymph, cellular infiltration from the borders of wandering connective tissue cells takes place, increasing until the blood coagulum is entirely replaced. About the third day the wound cleft is found to be filled with tissue almost entirely made

up of round-cells, with a small amount of intermediate substance and remains of blood coagulum. Later come large epithelioid cells, being the forerunners of granulation tissue formation and fibroblasts which change into the fibers of the fibrillar connective tissue. Note that these original fixed connective tissue cells and the endothelium of the vessels are the principal sources of cicatricial formation. Nuclei in different stages of division can be demonstrated in the fixed connective tissue cells and in those of the endothelium of the vessels as they undergo rapid proliferation. Some of these newly formed tissue cells can also become wandering cells. The regenerative process within the new-formed tissue mass is likewise carried on by the fixed tissue cells. The leucocytes present either perish by being absorbed by the growing tissue cells or they wander back into circulation. Some of the protoplasm of the wandering cells is used as cell material in both the scar formation and the regenerative process carried on in the original fixed tissue cells.

Reinke believes that further development is possible in those wandering cells which make their appearance after the proliferation of the fixed cells has begun, they being always noteworthy for the great vital energy displayed.

Ribbert holds that single nucleated lymphogenic leucocytes are capable of taking part in the new framework tissue formation by their action of assisting to cover lymph spaces with endothelium.

Marchand states that fibrin is produced by substances liberated by the death of the white blood corpuscles, that the polynucleated cells are retrogressive in nature and have developed from those with a single nucleus, and that further than this they take no part in the formation of new tissue. Sherrington and Ballance maintain that the cicatrix is formed from the cells of the plasma which are nourished by the protoplasm of the leucocytes.

Grawitz considers the so-called dormant cells as being all important in the process of wound repair; these cells which are previously invisible in the basement substance of a tissue become suddenly visible after an injury to the part, their multiplication giving rise to the embryonic germinal tissue from which the new fibrillar tissue of the scar is formed.

Ziegler's and Tillmanns' theory of the formation of fibrillar connective tissue derived from experiments shows that this tissue develops from the fibroblasts as follows: The formative cells are at first round; enlarging they become in appearance not unlike large, round epithelium, or they become elongated and possess one or more processes which anastomose repeatedly one with another. The number of these large cells increasing rapidly, they tend to become packed closely together. The fibrillar tissue is now formed in part directly from the protoplasm of these cells, consequently being of intercellular origin and from a homogeneous ground sub-

stance or stroma which had developed previously from the same source. Fibers begin to make their appearance from one or both sides of a cell, or from the extremity or in one of the processes, the formed fibers uniting directly with those from adjoining cells. The nuclei together with a portion of the protoplasm persist and become fixed connective tissue cells. The direction taken by the fibers is usually the same over considerable areas.

The cicatrix is, in the beginning, rich in elongated cells, the remains of the earlier formative cells. The size of these cellular remains subsequently diminishes, the fibrous tissue becoming thicker when the scar is complete. New vessel formation proceeds hand in hand with the tissue growth, in fact, renders further tissue building possible.

Nutrient first comes from escaping plasma, as Thiersch has shown that intercellular circulatory systems may be injected through the blood vessels, proving an intimate and ready connection.

Vessel formation proceeds from preexisting vessels by sprouting or budding. A capillary loop is first noticed to have a granular accumulation of protoplasm at one portion of its course; this increases until it becomes a solid protoplasmic filament which contains a nucleus. This simple or branched process becomes joined either to another end sprout or with the wall of a vessel, or it may arch back and unite with the wall of the vessel from which it sprang. Processes from the spindle- or club-shaped or branching formative cells of the intercellular tissue may join with the vessel sprouts, and thus the material in the formative cells will help in the formation of new blood vessels.

By a process of liquefaction necrosis the solid interior is tunneled, until, meeting with another excavation extending from the opposite end or opening out into a pouch forming in the end of a protoplasmic filament, the capillary loop is completed. The walls of all are at first homogeneous, but nuclei later develop with gradual separation into flat cells which soon become well formed endothelium. By the addition of some of the formative cells the vessel walls are greatly strengthened. Tillmanns believes that the protoplasmic processes from which vessels are formed are made up from the cells of previous vessels and from white blood corpuscles which have passed through the capillary walls.

After the scar has become well formed a shrinkage in the newly formed connective tissue takes place with a consequent disappearance of a portion of the vessels; this causes the red color of the scar to blanch.

From a consideration of that which has gone before it will be seen that it becomes a mere incident, depending wholly upon the nature of the wound, whether more or less of the formative connective tissue is required to fill up the loss of substance following the injury. The granulation formation in an open wound is in nowise differ-



ent from the vessel loop formation which takes place in a coapted incised wound. The repair of wounds of non-vascular tissues, such as the cornea or cartilage, is practically the same process as that for the vascular. In the case of the cornea there is to be found an intricate system of canals which, being associated with numbers of wandering cells, constitute the groundwork of progressive repair.

The perfect repair of wounds tends to a complete restoration of the destroyed tissue. Wounds of the skin, when injury to the deeper layers has not taken place, if the wound be clean with the development of a delicate scar, may be replaced by almost perfect skin formation save for the hair follicles and sweat glands which will not be reproduced. Much discussion at one time arose amongst the older writers, some of whom claimed that the rete mucosum could not be reproduced after wounding in the skin; but by observing the scars of wounds in negroes it was determined that rete mucosum containing the color pigment of the skin is readily renewed, as shown by the frequency of dark pigmented scars, sometimes blacker than the surrounding skin, occurring in this race. The best formed cicatrices after wounds of the intestines never have produced in them the glands of Lieberkuhn. Ponfick claims that he has seen renewing of liver and kidney substance of animals take place after wounding. That nerve tissue often renews in its entirety is shown by the repeated operations required for neuralgic affections. Mr. Haighton demonstrated the same thing by an experiment; he cut one of the eight pairs of nerves in a dog, later he cut the other side without any ill effects arising, but when both sides were simultaneously cut death followed immediately. Brown-Séquard has seen regeneration take place after division of the spinal cord in a pigeon. Muscle tissue destroyed is replaced by tendon. Astley Cooper found that wounds of the costal cartilages were invariably replaced by bone formation.

Morbid changes occurring in scar tissue may take the form of an overgrowth of the connective tissue element with a resulting extreme condition of deforming contraction. Keloid is a commonly recognized tumor-like formation, occurring upon the site of a cicatrix made up of hypertrophied fibrous elements. Cicatricial ulcers sometimes occur to complicate the progress of a healing wound; they are made up of hypertrophied fungous granulations. According to some observers two layers of granulation tissue are to be noted microscopically in a healing wound, the more superficial made up of vertical capillaries and the deeper containing a transverse meshwork of vessels from which the former originate, coming through a structure more or less dense according to age. Malposition, arising from excess of irritation of the ground network, is the source of this condition.

Pressure paralysis or neuritis sometimes follows the healing of a wound, from nerve filaments becoming caught in the scar tissue. Malignant

change from a cause at present unknown at times alters the course of healing wounds.

The treatment of wounds, called by Humphrey the corner-stone of surgery, has marked the epochs of medical advance from a mystic art to a basic science. In tracing the course which physicians followed out in their dealings with wound injuries from the earliest times, one cannot fail to be impressed with the nearness of empiric knowledge to latter-day proven facts. Every procedure had in it a principle which, while often hidden beneath false practice, seems in the light of our time to have been formed upon the highest intelligence. The factor which above all determines wound healing is the presence or absence of friction, or, taken in its broadest application, irritation. Whether it be due to mass motion of the wounded parts, or to the cellular destruction caused by pus germs, failure to secure perfect results will assuredly occur.

In setting forth this principle the author lays no claim to originality, for little thought is necessary to make it apparent that, from the time of Hippocrates to the present, prevention of mechanical irritation to wounded parts has been the aim in treatment. Balsams and oils continue to hold their favor, as they have from the beginning, for the treatment of wounds; the principle involved in the "pouring on of oil" being that of lubrication. Addition of aromatics and spirits which came to be associated, whether understood or not at the time, were clearly attempts to secure antiseptics. How far we have advanced in our clearer vision beyond that of the itinerant surgeons of the Middle Ages who individualized themselves by seeking distinctiveness in the composition of their wound applications, may be shown by the fact that we have to-day no one antiseptic upon which surgeons are agreed that we can safely rely upon all occasions in the treatment of wounds. Bearing this thought in mind the writer would plead rather for a simple treatment, based upon principles calculated from reason that each one may develop for himself.

Every individual has power of healing equally developed over his whole body. Rest of the part, in the broad sense, is the main factor in production of perfect healing for the individual concerned. It has been stated that wounds of the face and scalp heal quicker than other parts owing to increased blood supply. This is fallacious, for practically all tissues have capillaries, and it is these vessels which are the important factors where healing is taking place. I have found that a wound of the back or the leg equally deep as one of the face or scalp will heal as quickly as the latter, when I have secured rest and freedom of the part from irritation. Again, I find in my work that when I am not clean in a wound treatment, those of the face or scalp suppurate as quickly as do other parts. A sterile wound whose parts have been closely coapted without constriction by sutures, or subsequent outpouring of fluid, as when incised, is generally conceded to have been placed in the best condition for rapid

healing, so far as it lies in the surgeon's power so to place it.

Friction during the progress of healing of a wound surface is manifested by the outpouring of fluid. Profuse during the early constructive period, it becomes lessened as the granulation formation proceeds, until ceasing the untoward reaction of the wound surface to irritation from motion, bacteria, applications, or dressings is shown by fungoid formation upon the surface which slowly changes into coarse-grained, contracting scar-tissue.

To allow the escape of fluid from a wound various methods of drainage have been devised. The early surgeons, aware that hemorrhage not only endangered life but interfered with healing, employed boiling oil and the cautery, both certainly perfect antiseptics but giving rise to increased wounding by burning.

The theoretical knowledge of control of hemorrhage by ligation existed early, as is shown by the writings of Galen and Celsus, but appears not to have been practised until 1560, when it was brought forward by Paré. While this was an advance in one way it was disastrous for future surgical practice, as it opened the way for germ infection to the wounds so treated. In reading the older writers the one great fault in their technical treatment of wounds seems to have been the absence of thorough mechanical cleansing of the wounded parts. Thinking as they did that they were dealing with a structureless miasma, instead of solid particles, we find some excuse for failure of comprehension of the principal cause of liquefaction during wound healing. Franciscus Arceus, who flourished in 1580, was well aware of the necessity for dry wounds. Writing at this time he says "wounds are not healed before they are dry, as writeth Hippocrates."

Arceus to enhance what Paré had done by ligation invented the method of leaving the ends of a ligature long to provide for drainage and to facilitate its removal; the recognized value of this procedure causing it to continue to be used until the time of Lister proved that it was what was put into a man which defiled him. Arceus was in some respects far in advance of his time, for, though apparently ignorant of the true cause of suppuration, he gave general directions to cleanse the filth away from the wound to be treated. His method of treating scalp and face wounds is worthy of consideration; after applying a "digestive" made of the whites of eggs and turpentine, he fixes the wounded parts by numerous closely laid turns of a thread. Speaking of "tow and lint," the dressing advised for mechanical absorption, he declares it to be but the practice of barbers who go only by "a certain common rule and use no judgment. Arceus used for drainage a fine linen strip dipped in white of egg.

From the setons, tents and a variety of other appliances for drainage of these times but little change was made until the middle of the last century, when Chassaignac invented tube drainage. Neuber of Kiel later introduced bone absorbable

drains, which were improved upon by MacEwen, who suggested the employment of hollowed chicken bones for this purpose.

The method of capillary drainage by means of strands of horsehair, silkworm gut, braided silk or catgut, was brought forward by John Chiene, and in the last named substance we have set forth the first example of the principle of the absorbable drain. Kummel uses capillary tubes made of drawn spun glass, Esmarch and Neuber have suggested the employment of channel drains made by so suturing the skin as to form a sinus.

While any of the various methods recommended by surgeons are sufficient to allow the escape of the early watery products of wounding, nothing will drain pus perfectly. If we had any perfect method of drainage it would never be necessary to wash out pus cavities. So-called drains act after the first capillary poze has ceased by keeping the aperture open.\*

That surgeons were ever fully aware of the dangers arising from contained fluids in wounds may be shown by the statement of Lindpainter who, writing in the pre-antiseptic days from Nussbaum's clinic, said it was a standing rule at that time not to suture scalp wounds as rather inviting erysipelas to attack the individual. The other scourges of surgical practice, namely, purulent edema, suppuration, hospital gangrene and tetanus were recognized as arising from retained fluids within wounds. So real was the danger from this source that Pirogoff gave voice to the generally accepted opinion of the time when he said that "the results of wounds are dependent upon chance." In Nussbaum's clinic 80 per cent. of all wounds treated were attacked by hospital gangrene, and erysipelas was so frequent that it was expected. In 17 cases of amputation, 11 died in one year as a result of pyemia developed from virulent wound infection. A complicated fracture meant amputation, which, if not done promptly, meant purulent infection, hospital gangrene or septicemia and a rapidly fatal termination. At Volkmann's clinic at Halle the mortality in complicated fractures was 40 per cent. for him and his predecessors for many years, and in 1871-72 the numbers of victims to grosser infection of their wounds led him to close the wards of the hospital for a time. In 1870, hospital gangrene was the most frequent wound complication, but it is now never seen. Believing that the air was at fault in causing contamination of wound fluid, Schede proposed a method of allowing healing to proceed under a blood clot; recommending that the wound cleft be allowed to fill up with blood, which forming a moist clot becomes gradually absorbed and replaced by scar tissue if sepsis does not interfere.

With the idea in view of removing the danger from retained wound fluids there arose a number of surgeons who advocated the so-called open method of wound treatment, Kern of Vienna at the beginning of the last century being of the first. This practice was revived by Bartscher and

\* New York Med. Jour., Feb. 16, 1901.



Verzin in 1856, who simply stopped hemorrhage, then applied damp cloths to the wound surface until granulation was well advanced, when the parts were drawn together and held by adhesive strips. Rose, whose results have been dwelt upon by Kronlein, adhered to Bartscher's and Verzin's method but in addition daily washed out the wound. Healing by scab formation is closely allied to the open method of wound treatment as carried out by Bouisson, who dried wounds by blowing currents of air upon them for periods of fifteen minutes three or four times a day. This he called "ventilation treatment." If the retention crust softened to release fluid, powder, such as starch, alum or flour was dusted upon the open surfaces to cause renewed crusting. Neudorfer employed pulverized salicylic acid mixed with starch or zinc oxide as dusting powders to cause crust formation by rubbing them up with the wound fluids. Kocher advised the use of dusting powders for the purpose of absorbing fluids, recommending bismuth subnitrate powder mixed with a small quantity of water. Burow of Königsberg in 1859 attempted the cure of wounds by drawing them together with adhesive straps after allowing them to thoroughly glaze by exposure to the air for a number of hours previous to closing. So manifestly inadequate were the results obtained by the methods in vogue that Gamgee writing of 100 years ago said that primary union after amputation was scarcely dreamed of; the ligature for hemorrhage but partially and imperfectly employed, and dressers required to sit up all night to flour discharging wounds. As late as 1875 we find Nussbaum assailing hospital regulations which limited poor patients to but nine weeks' stay in the wards after operations upon the breast which required from three to six months to heal.

The new life given to surgery by Joseph Lister, who, instructed by the researches of Pasteur, Schwann, VonDusch, Tyndall, and preeminently by Robert Koch, demonstrated the practical control of germ life upon a wound surface, came none too soon. In spite of concerted opposition of many who believed with Tait that "the wholesale and reckless application of the germ theory is alike mischievous and misleading," wound treatment instead of resting upon chance became subject to fixed laws. Advancing from the use of balsams and oils certainly to a degree antiseptic though directly injurious when used at boiling temperatures, to carbolic spray, oil, and putty mass, we see these in turn giving way to the watery solutions of carbolic acid and bichlorid of mercury.

An appliance which to-day, though in general use for preparing instruments and dressings, has not had its powers of germ destruction fully developed, is hot water. From time to time surgeons have endeavored individually to set forth its value as a direct application to wound surfaces. Poiseuille, by his experiment upon the web of a frog's foot, demonstrated the rationale of hot water treatment of wounds. He found

that if the foot be covered with water heated to 104° F. the rapidity of the current in the capillaries is so much increased that the form of the corpuscles becomes indistinguishable, proving thereby that unless the water is of high temperature infected wound surfaces by absorption of the products of germ growth would be harmed instead of benefited by the use of this agent. Varick uses water at a temperature slightly below that of the boiling point and has demonstrated that when protection from scalding of the skin is secured by care in handling, the deeper tissues will be unharmed by the heat save for the formation of a coagulation membrane which causes oozing to cease and the wound to become glazed by the cooking of the albuminous elements in the superficial capillaries. Varick founds his treatment upon his experiments with serum albumin which coagulates at a temperature of 183° F. He demonstrates that water under this degree of heat should not be used in wound treatments if best results are to be obtained. In the treatment of tuberculous joint wounds by boiling water used with precaution to prevent scalding of skin surfaces, we have a method of great value. Dr. Stephen Smith has recited to me the history of a case of old suppurating sinus of the knee-joint which, while doing well under this form of treatment, nearly precipitated a suit for malpractice, owing to sloughing which followed scalding of the other leg from the draining water. O'Callaghan in upholding hot water treatment, stated that true antiseptic surgery meant absolute cleanliness and that his success was due to flushing wounds with hot water at 118° F. Hemostatic action without coagulating film protective formation may be secured by the use of water as hot as may be borne without pain: 125 to 140° F.

To assist in carrying off draining fluids and for protection and support of wounded parts various forms of dressings are employed. The most common are dry and moist sterile gauze, or the same impregnated with bichlorid or carbolic solutions; gauze which has been treated with iodoform or some of the various dusting powders; patent lint and absorbent cotton. A substance which has gained a well recognized place as an adjunct dressing is rubber tissue, but it is seldom put to its best use, namely, as a protective coming in direct contact with the wound surface. Rubber tissue as now made is membranous in quality and comes nearest to being the ideal application to a wound surface; applied in the form of small, narrow strips, laid on like shingles protection to the granulating surface is afforded while allowing escape of discharge to take place. Wounds which may be closed the entire length of their skin surfaces give little concern to the surgeon after having been rendered sterile, accurately coapted and put to rest, while those which are more or less open require his best thought to obtain rapid healing, the value of a method being proven by early restoration with resulting well-formed scars which show no tendency to undergo morbid change or progressive contraction.

An application to an open wound, whether it is made during the early relaxed stage from the direct injury which caused it, at a later period when the reparative forces are progressing under forming granulations, or into the final scar tissue formation, quickly shows its value as an adjunct in removing extraneous matter. This is all that the best so-called healing agents can do. Nature will repair so long as cell vitality remains in the parts and the best the surgeon can do is to secure rest, coapt and set the soft parts as he sets and fixes fractures of the bones, prevent the infection of the parts by germs, which is the most common form of wound irritation, and then adhere strictly to a policy of non-interference with the reparative process, unless for some good reason. Rest in wound treatment is not sufficiently demanded as a routine. A scab upon a sterile wound becomes a perfect splint and when possible under these conditions should be encouraged, but the reckless use of the numberless forms of dusting powders which, caked over wound surfaces, irritate more than they absorb, proving their inadequacy, cannot be commended. Too often from this method, and from the various scabbing mixtures applied most frequently to wounds about the face and scalp, result mere walled-in chambers of media for pus development.

Rest of the hands by means of slinging is not sufficiently demanded from patients suffering from wounds of these parts. Aside from the manifest comfort to be derived from this, there is less danger of becoming infected if free, or of increased infection if pus germs are already present by reason of engorgement from lowering the limb.

Various are the direct applications in the form of solutions which surgeons are in the habit of advising to be made to wound surfaces. Of the carbolic and bichlorid solutions it must be said that they are required to be too strong, and hence become irritants in themselves, aside from any virtue they possess of destroying germ life. Watery solutions, made directly or upon saturated cloths of gauze, fail of their purpose by the amount of relaxation and maceration which they cause. If an outer covering of sheet rubber tissue be applied the condition is made worse by a direct bid for pus development being made. Heat, moisture and the presence of the germs are the three factors necessary for pus development upon a wound surface; the germs themselves are ever present, and to supply the other factors in the combination by this too common practice simply furthers the process, and the wound heals in spite of and not by the assistance of the dressing.

Moisture should never be applied to an open wound continuously in the form of a dressing; a dry wound is a half healed one and it is fallacious to suppose that moist gauze will drain pus any more than dry. A wound which requires dressing must, if it lead into an abscess cavity, be washed out sufficiently often to prevent refilling and to induce continuous contraction.

Gauze, patent lint, or cotton used either dry or moist to open sterile wound surfaces prove their irritating properties by destroying the glaze, increasing discharge and by adding to the purulent discharge in an infected one, as may be proven by comparison with the use of membranous tissue applied in the manner which has been described. An agent by whose use I have been enabled to obtain clean wounds causing least irritation and thereby securing most satisfactory healing is hydrogen dioxid. According to Housell of Tübingen a 3 per cent. hydrogen dioxid solution is equal in power to a - to 1,000 bichlorid solution, acting on bacteria suspended in aqueous solutions; but hydrogen dioxid is superior to it in media, rich in albuminous fluid, but poor in cells. Where the latter predominate it is again on a par with the solution of sublimate. By this it is proven a recognized value as a germ destroyer for if used in solutions of 10 to 20 per cent. its power is pronounced yet without ill effect. In such strengths pain and danger from forcing living organisms within the deeper wound-spaces will be minimized when the solution is used in sinused wounds. In common practice the drug may be used in full strength or diluted to one-half or one-quarter its strength with sterile, cold water, with prompt and apparent benefit to an infected wound or to one which presented for first treatment appears to be clean, after a thorough but gently done mechanical cleansing of the parts as a preliminary routine precaution. Drying a wound with sterile gauze previous to suturing when this procedure is necessary, assists healing by removal of the capillary ooze, until the pressure of external dressing can be applied. Dr. Wyeth, before closing wounds in operations upon the breast and those of similar character, is in the habit of packing a piece of sterile gauze in the depths of the divided parts; suturing over this and leaving the last two or three loose to facilitate withdrawal of the gauze and secures the minimum of retained fluid by the application of steady pressure made by an assistant's hands until the dressings are in place.

Subcutaneous wounds where impact has caused coagulation to take place, as after contusions and deep punctures, are best treated by moist dressings, but the value of the dressing lies solely in the degree of heat which is maintained. Extremes of temperature are required, as the chief virtue of the treatment lies in an inhibition of the assaults of germs within the outer layers of the skin gaining entrance to the deeper parts, and unless the action maintained is over and above the amount of maceration caused, the treatment becomes to the same degree useless or directly harmful. It is this principle which demonstrates the value of a daily, continuous submersion treatment for infected wounds by means of baths of either hot or cold water.

**Summary.**—The consideration of wounds in one form or another makes up the bulk of a surgeon's practice. The series of phenomena known as inflammation is intimately connected with



wound repair and it is only since the discovery of the part which pus micro-organisms play that the relationship between the destructive and constructive processes in wounds has become clearly understood. From a consideration of the work of Thiersch, Ribbert, Recklinghausen, Ziegler, Marchand and others it becomes evident that that which takes place in a coapted, incised wound is carried out simply upon a more extended scale in an open one. The perfect repair of wounds tends to a complete restoration of the destroyed tissue. Morbid changes occurring in scar tissue when due to excess of friction or irritation during the repair are manifested by a commensurate overgrowth of the connective tissue element with resultant deforming contraction. Wound treatment seems to be based more upon the individual whim of the surgeon than upon the well-founded principles which time has proven. The one opponent to perfect healing of a wound is friction, and that this was clearly understood by the early physicians is demonstrated by their treatment of wounds by balsams and oils, later by the addition of bulkier bases constituting salves, thus affording support for lubrication. Every individual has powers of healing equally developed over his whole body. Rest of the part, in its broadest sense, with freedom from irritation is the end of treatment. The more delicate the manipulations of the surgeon during a wound treatment, the better will be the result gained. Splints are as necessary in the treatment of wounds of the soft parts if quickest possible healing is desired, as after fractures of the bones. To allow the escape of fluid from a wound surface various methods of drainage have been devised; when natural drainage is impossible, rubber tubes, wicking of gauze, rubber tissue, catgut, silk or horsehair may be used. It is an open question in regard to securing drainage of the peritoneal cavity after wounding; natural drainage or absorption seem to be in the line of reason. The power of the peritoneum to repel attacks of germ invasion is great, much greater than that of muscle or subcutaneous tissue, and it would seem to be a distinct advantage in these cases to withhold foreign bodies in the form of so-called glass, gauze or rubber drains whose chief function appears to be that of exciting exudate, as a pus germ has a better chance to make a successful fight in a belly cavity floating around in a serum media than when closing with a phagocyte glued to an endothelial surface.

No appliance in use to-day will drain pus perfectly. By elevating the head of the bed one to two feet, securing the patient by slinging under the arm, Fowler of Brooklyn causes gravity to assist drainage of the abdominal cavity with results unobtainable by other methods.

The furtherance of healing is secured by dry wounds and the correct principle was manifested by the older surgeons who allowed open wounds to first glaze before drawing their several parts together. Hot water used at proper temperatures may be made an important

factor to assist in the healing of wounds. Antiseptic solutions applied to wounds act as irritants, owing to the strength required to destroy germs. Dusting powders are irritating to wounds, as proven by the discharge which they cause. The best direct application to a wound surface after cleansing the parts by hydrogen dioxide is membranous rubber tissue applied shingle fashion. The treatment of punctured wounds, which are ever endangered by the complication of tetanus, by forcible syringing of hydrogen dioxide acts in the manner of an antidote. Moisture in the form of wet dressings should never be applied to open wounds. Subcutaneous injuries created by wet applications should only be made through light dressings to allow rapid evaporation to take place after each treatment, which should consist of immersion in solutions of the extremes of temperature. The virtue of this method is the inhibition of the activity of germ life, constantly active in the outer layers of the skin, by preventing its progress into the devitalized tissues beneath. The principle acts in a similar manner in the treatment by submersion for infected wounds.

805 Madison Avenue.

#### THE IMPORTANCE OF DIAGNOSIS IN SKIN DISEASES CONSIDERED GENERALLY AND AS APPLIED TO PARTICULAR DISEASES.\*

BY ISADORE DYER, PH.D. (YALE), M.D.,  
OF NEW ORLEANS;

PROFESSOR ON DISEASES OF THE SKIN AND SECRETARY OF THE NEW ORLEANS POLYCLINIC; LECTURER AND CLINICAL INSTRUCTOR ON SKIN DISEASES, MEDICAL DEPARTMENT, TULANE UNIVERSITY; MEMBER AMERICAN DERMATOLOGICAL ASSOCIATION; VISITING DERMATOLOGIST TO CHARITY HOSPITAL; EDITOR "NEW ORLEANS MEDICAL AND SURGICAL JOURNAL;" PRESIDENT LOUISIANA STATE MEDICAL SOCIETY.

To most practitioners of medicine the art of skin diseases is an unknown field, full of pitfalls and marked with the suggestions of difficulty and helplessness which befall the ignorance due to lack of education in this branch of medicine and surgery. The habit of comparison and of attempts at remembering experiences in diseased conditions is common with medical men and while this may obtain with diseases in which the subjective symptoms are mostly depended upon, with skin diseases it is invariably the real stumbling block in the diagnosis.

The diagnosis of affections of the skin is essentially one of analysis and that sort of analysis which characterizes the work of the naturalist who differentiates flowers and the organisms of the lower living types. Differentiation with skin diseases must be deductive and by exclusion. It is impossible upon gross evidences in any morbid condition of the skin to make the diagnosis and the failure is often attributable to this habit.

For many years the Vienna school in dermatologic questions was the dictator, and there the rule was to make the diagnosis on objective evidences almost regardless of contributory symptoms. More recently the French school has demonstrated the direct relation between internal or

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indirect factors and local evidences so that to-day the progressive dermatologist must lean on both methods. It remains, however, that the objective is certainly the basis upon which the diagnosis must be built, while to the subjective elements must be assigned the final confirmation. After several years in teaching skin diseases the writer has arrived at the conclusion that it is a difficult matter to carry men back to the A B C methods after they have graduated from rhetoric practice. So what may follow may not appeal to those of you who are fixed in your own ideas of diagnosis and who are apt to be captious of another way which may not seem so easy.

Every skin disease is the expression of a morbid change in the normal arrangement of the cell structure of the skin, either for the time or permanent. No two diseases of the skin present exactly the same characteristics in the expression of this change. There is, therefore, some difference in the manifestations of this change, and this difference must be evident in one or another way. If evident it should be distinguishable, and being distinguishable it should establish the difference and make the diagnosis. These elements of difference should have some fixed points of definition and the careful study of each of them should always show the very line at which the variance is found.

Every skin disease is divisible into the parts which comprise it: (1) With reference to the body as a whole; (2) with reference to the part or parts of the body on which it occurs; (3) with reference to the individual anatomic elements in the given eruption; and besides these objective points of distinction there are elements of (4) sensation and of (5) habit. Such is the basis on which exactitude is raised until a precise diagnosis must follow. Upon these elements points of difference are carried to a final exclusion. Briefly considering the divisions of the classes of skin diseases with reference to these points, we already see some light in clearing up a diagnosis.

*Parasitic Diseases:* (A) *Vegetable*.—Limited and irregular with selection of particular parts of the body; say, the scalp, head, flexures and legs. (*Animal*, general almost always.)

(B) Irregular in distribution, but following the lines of least resistance.

(C) Always distinct, the vegetable being essentially characterized by a tendency to form patches of circinate eruption made up of scales and hyperemia only; animal essentially papules or vesicles depending on the cause, but each distinguished by its location and distribution—*e. g.*, scabies occurs in the folds while pediculosis occurs on the extensors.

(D) All are itching diseases.

(E) Usually has no relation to disease except so far as contagion is concerned, which may not often be proven.

*New Growths:* (A) Usually limited; exceptionally on more than one region (*e. g.*, syphilis and leprosy).

(B) Usually single and irregular (in syph-

ilis and leprosy the extensor surfaces are selected and particularly the extremities).

(C) Marked by tumors and ulcerating lesions, single or grouped in clusters or arcs.

(D) Pain or absence of sensation (leprosy).

(E) History usually obtainable in the malignant diseases.

With these two examples the evidence is clear that the differences between new growths and parasitic diseases are clearly defined in almost every one of the elemental points. Yet it is no uncommon experience for the diagnosis of ringworm to be made in cases of spreading tubercular syphilides when there could be no point of resemblance excepting in the gross appearance. The presence of the tubercles in the eruption of syphilis should at once forbid the other diagnosis and have it excluded from the entire group of parasitic diseases by the elemental lesion of the tubercle which is so characteristic a part of the group of new growths.

So each of the other divisions of the skin presents its own characteristics, separating it from all of the others in some or all particulars. It is only when we reach the large class of inflammations of the skin that the task is more difficult but none the less secure. This is the division of skin diseases which, in the unwritten classification of these affections, with the general practitioner, is usually called eczema, and most of them are satisfied to let it rest at that. It makes little difference how multiform the evidences, nor how widespread the lesions, nor how pathologically different, the term of eczema has gotten to be far-reaching; so far-reaching that seven out of every 10 patients who call at the office or clinic with any skin disease will answer the question, "What troubles you?" with, "I have eczema." It may be an ulcerating syphilide or a simple seborrhea—it makes no difference; the term "eczema" is now the vulgar synonym for "skin disease" and, with "tetter" in the vernacular, covers a multitude of diagnoses as it does of sins.

I have no intention of being didactic or dogmatic, and my paper has been written largely as a plea for a better intelligence in the diagnosis of skin diseases. The confusion of eczema with any other skin disease is not excusable and this is the keynote to the whole question. Too little pains are taken in making a diagnosis and too much indifference is entertained and shown in the care of these cases so long relegated as the result of vice or dirt and neglected because they seldom killed anyhow.

Eczema is essentially a catarrhal process and with the evidences of such. Even when a chronic condition of eczema transpires it still presents the same sort of an hypertrophy as a catarrhal condition elsewhere and with the same sort of symptoms. From the hyperemia which shows the first blush of the disease, the swelling, burning, and itching, erythema, papules and vesicles—each too short-lived to be distinct and both quickly giving way to the exudate of serum which breaks through the thin epidermal covering and shows



in crusts of amber on the surface, here and there falling or, by scratching, being torn away—on through the changes due to constant exudate, lack of epithelial activity, crusts of more and more thickness—down to that state of infiltration of a sodden, pitting skin, eczema preserves its identity and separates itself beyond confusion with any of those diseases which through mistake and carelessness bear its name.

Nature is exact in all other skin diseases as well. The accidental bites of insects so promptly define themselves that there is no need of finding the insect to prove the bites. The ubiquitous mosquito usually bites to feed and when let alone or when not hurried makes a neat puncture of the papilla and leaves behind a tiny hemorrhagic spot to show its skill—sometimes covering, with the assistance of its kindred brood, a whole face in the execution; otherwise, the proboscis misses fire and breaks the skin between the fructive hills and then edema, toxic swelling, burning, itching and a phrase or two of impolite invective mark the flight of the culex or his cousin anopheles. Even here nature distinguishes, for in the edema of a mosquito bite, the edges of the wheal are irregular and the hive itself is reddened often, its size irregular. The flea bites twice and always makes small lesions, rounded wheals, and uniform in size. The bedbug bites but once and usually dies in doing so; so the lesion makes this effort in a large rounded almost spherical elevation, sometimes as big as a half dollar, with an aureola around the wheal as large again as the lesion itself. The spider bites with toxic intent and not to suck blood, and he leaves behind an inflamed area, usually as large as half a dollar in size, in the center of which is a pea-sized wheal, or edematous area; in the center of this again is found a tiny blister where the insect struck. Even, then, in the lesion, that small pathologic symbol of the offense to Nature, each of these shows the points of definition.

When leprosy finds a diagnosis of eczema and of erysipelas, and when the scabies of the ancients is diagnosed as syphilis and the patient salivated again and yet again without a cure; when impetigo (the common "Indian fire" of the vulgar, and old-time *ignis silvaticus*) is diagnosed smallpox and when acne is called syphilis, again this earnest plea is made for more attention to detail in diagnosis.

Every summer come to the physician patients with deep-seated vesicles, grouped in, clusters running along the sides and soles of feet and spreading over palms and fingers of the hands, telling the story of "relapsing eczema;" when the diagnosis of a sweat gland eruption is patent to every man who looks twice; vesicles, clear fluid, grouped along the line of distribution of blood vessels, bilateral, no redness (at first), some itching, more burning; history of same eruption with the changing weather, especially every summer, sweating feet and hands and occupation either sedentary or exposed to weather.

Eczema, on the other hand, begins hyperemic

or vesicular, on a hyperemic base; the vesicles break promptly, so promptly that often you cannot distinguish them.

The diagnosis of "Indian fire" is so easy that every old mammy can make it out, and yet it is confused with smallpox. A superficial vesicle is the initial lesion—growing quickly into a larger pustule, flabby walls, crusting, and the crust falls, leaving a smooth shiny spot, limited to the epidermis as a rule; while smallpox begins as a papule deep-seated and, even when pustulating, seldom grows larger except in confluent type.

The evidence of experience points to the fact that the mistake in diagnosis is most often due to the failure to recognize the component parts of a given eruption. Until the difference between a vesicle and papule is known, it is impossible to distinguish a particular vesicle or a certain form of papule as peculiar to a disease under consideration. For example, the fluid lesion of pemphigus is entirely different from that of pompholix, the sweat gland disease, which we have discussed above, but the diagnosis of pemphigus is commonly made in all eruptions of large fluid lesions, or bullæ. As a matter of fact pemphigus is a rare disease and most formidable in its course and outcome. The fluid lesion of prickly heat is commonly recognized, but when the same lesion with less inflammation shows in that same pompholix at its initial stage the diagnosis of eczema is made almost without exception. Almost all erythematous eruptions when localized are diagnosed erysipelas, just because of the redness and the limited area involved.

It is impossible in the space and time at our command to cover the whole field of diseases of the skin, but we wish to conclude with the plea for a more earnest effort at diagnosis and with a summary of the essential points involved. No treatment can be called specific in skin diseases and whatever treatment may prove successful must be directed at the origin of the disease. This can only be determined by recognizing the morbid evidences in detail and in their relation to the individual afflicted.

Now there are these cardinal points in the diagnosis, and we can present these as our climax: (1) The location of the disease is the first point of study; (2) then the distribution on the particular region on which it occurs; (3) the arrangement of the component parts, or lesions. The lesions themselves must be studied in detail so as to classify the disease.

Besides these cardinal points there are certain points in diagnosis which are important in their value as guides.

(a) Eruptions which are bilaterally symmetrical are either constitutional in origin or are exposed to the identical local cause on both sides of the body.

(b) Parasitic diseases are found on the flexors preferably, or on the exposed parts of the body.

(c) The more chronic diseases of the skin become the deeper the color; on the other hand,

the brighter and more vivid the color the more acute the disease. Scales are the evidence of chronicity; likewise ulcers and scars.

(d) Fluid lesions seldom itch. Papular eruptions almost always itch.

(e) Single ulcers are almost always syphilitic, trophic, traumatic or malignant; multiple ulcers are tubercular, syphilitic, or malignant.

(f) On the face ulcers are seldom due to other causes than cancer, syphilis or tuberculosis.

(g) The color of eruption on the Caucasian is always important in diagnosis. Syphilis is pigmented brown or buff as its eruptions fade or disappear. Leprosy is always shaded brown or purple. Lichen ruber is always violaceous or white. Psoriasis is always pale red covered with white scales. Seborrheic eczema is always yellow red with greasy scales.

(h) The odor in skin diseases is important. Syphilis, when ulcerating, smells rancid; favus smells mousy; varicose ulcers smell sweet; neurotic ulcers, or those of leprosy are nauseous, foul and intense; rodent ulcer has a smell of rotting meat.

Fothergill once stated that a glance at the patient as he came into the consulting room often helped a long way in the diagnosis. It was he, as well, who referred to the belief that the facial expression of pain and anxiety pointed to some disease below the diaphragm, while a smooth unruffled, except sad, countenance told a diagnosis of thoracic disease. In dermatology, the glance will not suffice. The examination must take the disease first and the patient afterwards. With the human skin as a map and the eruption as geographic points, it requires exactitude to find and fix the disease in its proper limitations.

#### ADVANCES IN OPHTHALMIC THERAPEUTICS.

BY D. B. ST. JOHN ROOSA, M.D., LL.D.,  
OF NEW YORK.

OPHTHALMOLOGY has been peculiarly fortunate in its local therapeutic applications. They have been singularly well adapted for the purposes intended, and act, as a rule, without local or general disturbances. We have only to instance the preparation of the atropa belladonna, which still easily holds, in the form of sulphate of atropia, the first place as a mydriatic, and also as an antiphlogistic, in iritis and keratitis. Then came the exceedingly convenient hydrochlorate of cocaine, for its purposes of anesthesia, which also, like atropine, holds its place in the very first rank, in spite of all the attempts made to improve on that which scarcely needed improvement. As substitutes for atropine, homatropine and scopolamine have some position. The former is chiefly used by those who secure paralysis of the accommodation, in order to fit the eye with glasses, for which purpose homatropine has decidedly an advantage over atropine, in that it causes less inconvenience to the patient

on account of the comparatively short time that its paralytic influence is exerted. But in these days paralysis of the accommodation in order to secure the adjustment of glasses, is not insisted upon—in fact, not at all required, by many practitioners, so that homatropine has become more limited in its use, it being decidedly inferior to sulphate of atropia, as an antiphlogistic, or where a permanent dilatation of the pupil is desired. Scopolamine may also be employed in those fortunately rare cases, where belladonna is not tolerated. But, as has just been intimated, atropine continues to hold the place which it has held for so many years, as a most efficient therapeutic agent, in iritis and keratitis, with very few exceptions to its usefulness.

Euphthalmin is a valuable agent for securing transitory dilatations of the pupil, for the purposes of ophthalmoscopic examination, and seems to be attended with very few, if any, harmful effects, and these few are entirely exceptional.

It may be considered a truth that most mydriatics, especially atropine, are not without danger, in cases of latent glaucoma, and, therefore, must be used with caution in those who have any, even remote symptoms of that direful affection. But the fact of the mere matter of the age of the subject should bear no influence in declining to use atropine in keratitis and iritis.

The substitutes for cocaine, holocaine and eucaine have been thoroughly tried by the profession, especially by those who claim to have some reason to be dissatisfied with the effects of cocaine, but with the result that they are found to have more disadvantages than the merits which were claimed for them. Eucaine, for example, is more apt to create hemorrhage than cocaine. As to the local anesthesia, in the opinion of the present writer, nothing more could possibly be desired for operations upon the conjunctiva or cornea, than can be accomplished with cocaine. It is true that in iridectomy for glaucoma, where the incision should be in the scleral ring, and where the iris is cut, we must still resort to a general anesthetic. Then even in this operation we are confronted by the occasional occurrence of phakitis, even when the knife does not touch the lens. But the substitutes for cocaine have no advantage whatever over the local anesthetic, whose great properties were discovered by our fellow townsman, Carl Koller.

When the aseptic and antiseptic discoveries were made, ophthalmologists hesitated, perhaps more than other surgeons, as to the employment of the special antiseptics, such as carbolic acid and bichloride of mercury. But finally bichloride of mercury achieved a prominent place, and the majority of surgeons prepared an eye for operation by the use of weak preparations of a bichloride upon the conjunctival sac. The writer of this paper was one of those who clung to a belief that this was not only useless, but positively harmful, in an ordinarily healthy conjunctiva; and as yet, he never has made use of bichloride solutions, however weak or however strong, in

\* Read before the American Therapeutic Society, May 14, 1902.



operations upon the conjunctiva, or the interior parts of the eye. Sterilized water has been the agent with which he has been entirely satisfied, and he is ready and glad to report that a very large contingent, as least, of ophthalmologists, have come back to the original conviction, when antiseptics became generally used in surgical operations, that, given a healthy conjunctiva, the microbes, in an operation performed with clean instruments (that is to say, thoroughly sterilized instruments), are quite sufficient to insure an aseptic condition. The eyelashes, however, continue to be thought by many, even when the conjunctiva appears to be entirely healthy, as a possible source of infection, and, therefore, biniodide of mercury, 1-400, in sweet oil, according to the method of Panas, is used as an ointment to the lashes 24 hours before a cataract operation. This great authority in ophthalmic surgery long since abandoned injections of solutions of biniodide of mercury into the anterior chamber. A conjunctiva that is not healthy, especially one that is infected from a lacrimal disease, should not be operated upon until with one of the old, well-known and still highly-valued ophthalmic agents, sulphate of zinc, sulphate of copper, sulphate of alum or tannic acid, with an operation on the lacrimal apparatus, if required, the eye has been put in an aseptic condition. This is an important subject in ophthalmic therapeutics, which our recent knowledge makes imperative. No man in his senses would think of operating upon an infected conjunctiva for the extraction of cataract, where everything depends on a prompt healing of the wound.

While the agents above enumerated continue to hold the same position that they did with our predecessors in the treatment of inflammations, there has been a great addition to our resources for purulent conjunctivitis, in the preparation known as "protargol," a silver compound, as you all know, consisting of about eight per cent. of silver combined with protein. It is pretty well established by the reports from the Massachusetts Charitable Infirmary, by Dr. Miles Standish, and from the oral statements of surgeons of the Manhattan Eye and Ear Hospital and other authorities, that this agent in a 20 per cent. preparation is of exceeding value as a substitute, in a large proportion of cases, for nitrate of silver, as it is much less irritating. It may be also a much more frequent application than nitrate of silver. Dr. Engelmann of Bonn, reluctantly however, reports the bad results in the instillation of protargol for the prophylaxis of ophthalmia neonatorum. By the Credé method he produced silver catarrh in over 48 children.\*

A new remedy intended to give assistance in the performance of operations upon the conjunctiva, which is undergoing thorough trial, with an apparently general approval of the results so far obtained, is a solution of the adrenalin chloride, 1-1000, being a solution of the active principle of the suprarenal gland.

It has been for several years known to the profession, especially to the researchers of *Abadie*, that subconjunctival injections of bichloride of mercury are sometimes serviceable in inflammatory conditions of the eyeball, of the iris and choroid chiefly. Of late, normal salt solutions (chloride of sodium), from one to two grs. to the ounce, in water, are being used with apparently as good results; and recently these have been employed for that hitherto incurable affection, simple atrophy of the optic nerves. Only isolated cases are reported, and it is altogether too early to give this means of treatment a permanent place in ophthalmic therapeutics.

In trachoma, mechanical treatment, pressure and removal of the trachomatous bodies, with subsequent use of the bichloride, continues to hold a firm place as a substitute for the prolonged treatment by sulphate of copper. Jequirity, however, retains its place among certain surgeons for trachoma with pannus. The treatment of strabismus has received a new impulse by the method of Panas of preliminary stretching of the muscles before division and the performance of a bilateral operation.

I may conclude this sketch of what may be considered some of the advances in ophthalmic therapeutics, by an allusion to an operative resource which is now undergoing trial at the hands of the profession, that is, resection of the cervical sympathetic ganglia for glaucoma. In the unsatisfactory condition of the therapeutics for chronic simple glaucoma, every ophthalmic surgeon will warmly welcome any efficient addition to his therapeutic resources. The brilliant results in acute glaucoma from iridectomy remain, however, as they were first given by Graefe after his epoch-making discovery. The operation is one that may be undertaken by any well-trained surgeon, for although an important one, and involving very careful dissection, it is, as stated by one of our New York colleagues, Dr. Marple,\* a safe procedure. It is certainly also sure that some glaucomatous cases have been improved for months, when eserine and pilocarpine, the well-known agents of a few years back, have failed, and where nothing could be hoped for by iridectomy or sclerotomy. Dr. Webster of New York reported one such case at a recent meeting of the New York Ophthalmological Society.

This brief résumé, gentlemen, I think, is sufficient for its object in demonstrating that, like our brethren in other departments of medicine and surgery, the ophthalmologists are in the front line, eager for an advance in any direction toward the overcoming of anything that is an obstacle to the prevention or the cure of disease.

**American Association of Obstetricians and Gynecologists.**—At a meeting held in Washington, D. C., last week, Dr. Lehman H. Dunning of Indianapolis was elected President and Dr. Herman E. Hayd of Buffalo Vice-President. Chicago was selected as the next place of meeting.

\* *Ephemeris*, Jan., 1902.

\* *Med. Rec.*, May 10, 1902.

**BRONCHIAL ASTHMA AND ALLIED DISORDERS;  
THEIR SUMMER TREATMENT.\***

BY BEVERLEY ROBINSON, M.D.,  
OF NEW YORK.

To some medical practitioners, I am glad to say, the existence of cases of purely nervous asthma, although admitted, is regarded as relatively very infrequent. The great majority of cases seen by us, in dispensaries, hospitals, and even in private practice, are already accompanied by evidences of bronchitis—acute or chronic—not to speak of the frequency of conditions which may or may not be considered as complications. This statement being admitted, I shall not take time to discuss the different theories of asthma. In the first place, you all know them as well as I. In certain cases undoubtedly, one theory seems the more rational—in another patient it is very unsatisfactory to explain signs and symptoms.

Asthma is a symptom of many allied conditions, as a rule; it is explained by none solely. At times, the nervous substratum, hereditary or acquired, is most pronounced; again, it is not evident even after considerable enquiry and research. The cause of the attack may be direct, sufficient and clearly defined; often it is distant, obscure, badly determined. What is true and admitted of all is the manifest indication to relieve acute dyspnea when present, as rapidly as one can, provided always it is done rationally and without causing immediately or subsequently, avoidable injury to the patient.

In general terms, an injection of morphine and atropine will relieve very many urgent cases. There are, however, exceptions and in one instance in my experience, it aggravated the symptoms in a marked degree. Inhalation of nitrite of amyl frequently also affords great and immediate relief. Here again, I have known it on one occasion to give no relief, and within a brief period and despite active and repeated stimulation, the patient died. I might continue in this line, and speak of inhalations of chloroform, ether, chloride or ethyl and other anesthetics. Also, I might laud the effect in acute attacks, of inhalation of cigarettes, papers, powders—formed essentially from well known narcotic or antispasmodic drugs. Sometimes they relieve in a remarkable and rapid manner. After a while, and although they were at first useful, they lose power in this respect, and cannot be counted upon even for solace. Of the numerous drugs which have been vaunted to lessen the suffering and shorten the duration from the acute attack, while diminishing its frequency and lessening its later intensity, none in my judgment is so valuable as iodide of potash. It may be given by itself, preferably in milk or junket as a suitable menstruum and in moderate or large doses. In almost all instances where the suffering is acute or only moderate, it should be combined with Hoffmann's anodyne. Thus we obtain effects

from the useful expectorant properties of the iodide and the stimulating and antispasmodic qualities of the ether compound at the same time. After all, however, the treatment which is most important is the preventive one, if possible, of the recurrent attacks. And to effect this we should, of course, consider all individual factors involved, but even then the influence of climate for good or for evil, is primary.

About this matter, there exist some received but lamentable errors. In the first place, it is stated that asthmatics do better at times in the city than in the country; that the more or less contaminated air of the former prevents or shortens their attacks. This I do not, cannot believe—and certainly in a fairly wide experience, I have seen and heard nothing which proved it to be true. No doubt there are rare instances where in a given locality, seemingly the most unfavorable, an asthmatic patient has had the experience of an attack being shorter, less violent than usual—or indeed, not to have had one recur for months or years perhaps. When, however, these rare cases are thoroughly sifted, it will be found that the true solution of such singular or startling facts, resides in a matter easy of explanation in a satisfactory way. It is stated also, that one place or another in the country is especially good for an asthmatic patient—just as it is affirmed that this or that spot is particularly favorable to sufferers from hay fever. My own experience, observation and reading would prove in general that it is an erroneous belief. The place that suits a well man best frequently suits an ill man best, but with asthmatic patients particularly, the individual search for this place must be made, and judgment about it only definitely fixed after several trials and much previous uncertainty. I have been in the habit whenever I could properly do so, of sending my patients with catarrhal disorders of the respiratory tract, to Europe in summer. The complete change, the ocean trip, absence from all worry and care, were in my mind as elements most desirable to ameliorate a previous condition of disease, and thus to diminish on return home the probability of renewed attacks. Where the respiratory difficulty is pronounced and has resisted many methods of treatment, I consider a spa treatment of three to four weeks, advisable. If the digestive organs are notably impaired and the liver engorged and torpid, the mild alkaline springs of Homburg or Royan are useful, and even if abused, are not very detrimental to health like those of Carlsbad. In all rheumatic and gouty states combined with the conditions mentioned, these waters are also clearly indicated. On the other hand, where the respiratory tract is notably involved and where the other conditions seem secondary, I have no doubt that certain sulphur springs, especially those of Aix-les-Bains, are more beneficial. I believe this, first because I believe the local use of sulphur water atomized, or of the gases from it respired, is beneficial. Aside also, the advantages from baths, drinking the sulphur water, use of it locally

\* Read before Section on General Medicine, New York Academy of Medicine, May 30, 1902.



in the form of sprays or vapors, I am of the opinion that the air itself of and around sulphur springs, is curative of most catarrhal disease of the air passages. In those instances where patients cannot go to Europe in summer, I advise them to go to sulphur springs in the United States, preferably Sharon or Richfield, or to some region of the Adirondacks more or less elevated. The seashore in general does not appeal to me; and yet, for such patients, I have known those who have improved notably anywhere from Long Island to the Maine coast. The doctor and patient must here work in unison and find out the special spot suited to the latter's needs. As we know, there are several places in the White Mountain region which are very healthful and bracing and are said to be especially well suited to hay fever sufferers.

In regard to other treatment in summer, what should we do with out asthmatics of bronchial type or those affected from an allied disorder? Should we continue to give them drugs or simply depend upon climate or spa treatment and régime, to do for them all that is desirable? Here again, there is no absolute rule. We should, as I believe, do pretty much as we should do under similar conditions in the winter, and when the patient is at home or in some one of the health resorts of the South. What this treatment is I have shown in a certain measure already. In addition, I might add that search should be intelligently made for any sinning agent or organ, which evidently requires attention. Among men especially, the nose and stomach must be properly considered. If there be marked nasal obstruction from polypus, deviated septum, hypertrophy, suitable local interference should be instituted. If dyspepsia and gastric complications are present, judicious treatment should be tried. Among women, both nose and stomach must also be investigated, and inasmuch as the uterus and ovaries are frequently at fault, perhaps some local treatment may there be required. What is far more likely is that the general nervous system needs toning up in every way, and whenever this indication is judiciously attended to, it will be found that sufferers from asthmatic seizures are not rarely much benefited.

It is often true that despite all our well-meant efforts, these patients still remain great sufferers and then they are too apt to become victims of soulless quacks who give them unwholesome drugs and drain their pockets. This is to be deplored and also because many proprietary remedies for bronchitic asthma act through the respiratory passages, and when for example they are inhaled, by reason of irritating products of combustion, do real harm to parts which are relatively healthy. To those parts far removed, deep seated, where the occluded, thickened inflamed bronchial tubes are found, and which are the real *fons et origo* of most signs and symptoms, here the inhalations rarely reach, and even were they appropriate and innocent, could only now and then be of any use. On the other hand, some of these inhaled

substances are powerful narcotics and depressants and also local irritants. They deprive the healthy mucous membrane of its protecting epithelium; they depress and weaken many an organism where a dilated heart, emphysematous lungs and insufficient kidneys make their use wrong from every points of view and not seldom dangerously threatening to the patient's life.

Almost all cases of bronchitic asthma which have lasted some years, and where the acute attacks have been at all severe, are accompanied with some dilatation of the right heart cavities. The cardiac walls are thinned, have lost power, and may be degenerated. Hence it is that too high mountainous elevations are to be avoided, and we should not be surprised when told by patients themselves that such has been their experience. On the other hand, I do not believe the near vicinity of fresh-water lakes to be advantageous to these patients, or, as a rule, a very moist or fog-laden seashore atmosphere. Of course, all marshy, badly drained, clayey or even very scoggy ground should be strictly avoided—and these indications are to be particularly observed because I still believe that malaria causes asthma, where *Anopheles* cannot be the carrying agents. Much rest, simple food, good water, very gentle or moderate exercise are the indispensables of a sensible summer treatment for asthmatics. Spirituous drinks, tea, coffee, tobacco should be indulged in only exceptionally and when the symptoms appear to justify or call for their use.

We know how frequent digestive disturbances accompany bronchial asthma. The effect of a late or imprudent meal will frequently occasion an attack. Even in cases where the dyspnea is continuous, it is much aggravated by even a slight attack of dyspepsia. While the evidences of stomachal derangement are often manifest, this is not invariably true, and sometimes it is only after close investigation or the use of such medicinal means as soda bicarb, sub-gallate of bismuth, or the employment of lavage, that we can definitely determine its presence. Where the deranged stomach is causative of an attack of asthma or of an increase of chronic dyspnea, the beneficial results of a rational dietary and treatment directed to this organ, are shown very soon. In our summer treatment of asthma nothing is more important, therefore, than the effects produced upon the digestive organs. I have no doubt that climatic influences are powerfully felt here as elsewhere. But well prepared, simple and healthful food is also very essential and of course the drinking water should be of absolute purity and recognized potability. If these two qualities be not present it is far better to have the patient drink some favorably known bottled spring water. Despite the views of Haig and others, I believe only moderately in gout as a frequent, direct causative factor of bronchial asthma. I do not deny, however, that it may be present, and for this reason, in doubtful cases, would consider it advisable to limit the amount of red meat in the dietary and insist mildly on drinking water from

a so-called lithia spring. While limiting the quantity of butcher's meat, I should also eliminate from the dietary potatoes and other starches in excess, as undoubtedly they are oftentimes productive of much flatulence and stomachal distension in the weak and feeble from any disease.

A fact which all general practitioners observe is that of the interdependence at times of eczema and other cutaneous disorders and asthma. If the cutaneous affection is improved, the asthma is occasionally worse; if the asthma improves, the eczema is more pronounced. The underlying factor in both instances is neurotic, the same eosinophile calls may now be found in the mucous secretion from the bronchial mucous membrane of the asthmatic or in the skin of patient suffering from prurigo. Arsenic, as Trousseau long ago pointed out, corroborated since by many other writers, will prove the most useful of all remedies in similar instances for dyspnea on the one hand or itching on the other.

In many cases of bronchial asthma the question arises between drug treatment and a surgical operation. The operation indicated may be and frequently is in the nose. It occasionally refers to a misplaced uterus, an inflamed ovary or an adherent prepuce as factors in the case. I stand to-day about where I did many years ago, always allowing for brilliant advances in the surgery of all special departments, which no one more cheerfully admits than I, viz., that while very rarely you may achieve a remarkable and enduring result in these cases by operative procedure, yet in the vast majority these desired results are not lasting. A time will come, sooner or later after the operation when we are forced to ask *cui bono*. And the answer is more than doubtful from a favorable standpoint. Do I believe in mere drug treatment, so-called? I certainly do not except in limited measure and with great regard for the large experience of many and for time-honored testimony. As I grow older and I believe more experienced, I am chary both of much medicine and much surgery. Ignorance and enthusiasm do more harm in the long run than the contrary defects, perhaps, of scepticism and conservatism—which ever show a tendency to refrain. As I believe, a surgical operation is the opprobrium of surgery in the widest sense; just as a dose of medicine is the opprobrium of the healing art—the noblest and most beneficent of all the arts.

The luminous object to keep constantly in view, I believe, is what may ultimately proceed from a true prophylaxis of disease by the daily use of all hygienic methods. Already many of us recognize and teach this way of doing. Unfortunately, people are not as yet thoroughly educated to see the great wisdom of it and the inestimable results from a health point of view which would ultimately come to them by adopting it as their rule of guidance. To show how true it is as regards bronchial asthma I need only state what is true that the only cases of this kind which thoroughly and permanently recover in my experience, are

those in young persons where secondary complications are as yet undeveloped, and where everything has tended to produce the best growth of an originally defective physical condition. A few of these cases are indeed the only ones where I would now be willing to recognize asthma as being a purely nervous disorder.

I might continue to read at length on this interesting topic. I have made no such attempt. I have merely endeavored to point out a few leading thoughts proceeding directly from my own study and experience, which may serve, I hope, to start an interesting and very profitable discussion at this season, when we all wish to know what is best to do with cases of bronchial asthma and allied disorders during the coming summer.

#### SCHOOL LIFE AND INSANITY.

BY J. S. LANKFORD, M. D.,  
OF SAN ANTONIO, TEXAS.

THAT insanity is increasing to an alarming extent is beyond all question. Formerly a few dark dungeons were sufficient to house the madmen. Now, however, notwithstanding our better enlightened views, and that the broad and humane tendencies of mankind have led to the building of an almost infinite number of modern institutions until the capacity is enormous, the ever-increasing cry is more room for the insane. Private sanatoriums are springing up all over the country and are prospering on account of good patronage, and many patients are cared for in their homes; and yet we suffer the humiliation and disgrace of detaining in criminal jails many innocent unfortunates because we have no other place for them. As a nation and as individuals we are philanthropic and quick to answer the call of distress from every source, but we are confronted with the almost impossible task of trying to keep pace with the growing necessity for homes for this most unfortunate class of all human creatures. If anyone doubts these statements let him inquire of the authorities of any of the states the number of insane cared for now as compared with any given period in the past. It must be admitted that changed conditions in environment and in methods of living are largely responsible for this fearful increase in insanity. There is no sociological question of the present day of equal importance, and students of racial and national evolution and degeneration cannot afford to pass lightly by such an important state of things.

It is my purpose in this paper to discuss one of the important factors in the causation of this marvellous increase in mental trouble, viz., the high pressure in the school life of our children. The American is a composite character who seems to have been born with an inordinate desire to excel all other human creatures in everything he undertakes, and to have gathered up all of the energy of the world, but not all of its wisdom. He must erect the tallest business blocks and build the finest palatial homes; he must make the best rail-

\* Read before Texas State Medical Association, May 7, 1904.



road, time and drive the fastest horses; he must do more work and make and spend more money than anyone else; he must be everything, know everything and stand first in it all. The inevitable result of this desperate effort to excel in the wild rush for position and money, prestige and power is an all-consuming rapid pace of living that knows no rest and that must lead to destruction.

It is not surprising that this all-pervading tendency to attempt too much has invaded our schools and has become so pronounced that we find our children burdened with a course of instruction far beyond the limits of reason—a course, in fact, which is an outrage upon the brain and nervous system of the growing child. The good old days of simple instruction, good moral lessons, outdoor sport and natural bodies have passed away. The pupils positively look too old to enjoy play. Years ago the great problems of science were hard lessons for mature minds, but now our children are dipping deep into scientific matters before they are old enough to be certain of anything but a mother's love; and they are daily oppressed with profound problems that would stagger the average business man. They are required to answer questions in anatomy and physiology that are too hard for medical men. They are experts in botany and so versed do they become in geology that they can explain the formation and development of the earth from the earliest ethereal state to the discovery of Beaumont oil. Geography is followed for seven long years, rehearsing climate, soil, products, commerce and peoples of all the nations of the earth, and for what? History of all nations must be remembered perfectly with all the dates from Adam down to Roosevelt; and the child must be able to theorize and discuss the rise and downfall of every government that has ever existed. Of course the pupils have an abundance of spelling, reading, writing, arithmetic and other legitimate studies; and they have grammar and language books with diagramming, paraphrasing and dramatizing enough to produce paralytic dementia in an adult. Music and art and all sorts of accomplishments come before the child has reached the age of accountability. If the little fellow is still able to travel and hasn't quite as many books as he can carry home to study at night and to haunt him in his dreams, he has the privilege of adding German, Spanish and French to his Latin. Philosophy and psychology are essential, and hypnotism, osteopathy and Christian Science may be included later. Millions of cold book facts to remember while the delicate structures of the brain are struggling for development, but no time for rest or for original thought, and no attention paid to the growth and care of the body.

This constant and terrific strain upon the brain of the growing child without any attention to the development of the body, and with but little care for the general health, cannot be otherwise than most disastrous. Many of the pupils if examined will be found excitable, emotional, wakeful, discontented and suffering often with headaches or

nervous dyspepsia, the girls showing a decided tendency to hysteria, with here and there spots of anesthesia and hyperesthesia discoverable. The girls are, in fact, the greatest sufferers, for they are conscientious and ambitious and struggle desperately to make a creditable standing, while the boys play more, shirk their duties and quit school early. Girls suffer great injury, particularly at the beginning of menstruation. What particular morbid process is going on in the central and peripheral nerve-cells and other structures we perhaps do not know, but that injury is done we have abundant evidence. In my own city three ambitious girls and one boy were under the usual strain for years. One of the young ladies is now in a private institution in the north seeking relief from insanity. The second is in the care of a keeper at home, hopelessly lost; the third is in the asylum for life. The young man was afflicted with acute mania for a year and is now apparently well, but his future is uncertain. One of the young ladies had just "finished" but was practising on the piano ten hours a day when she broke down. These are a few examples of the direct and immediate results of the strain upon the mind.

The indirect and remote effects are more appalling still, because a much greater number are concerned. A large number of children come out of school with a morbid condition of the brain, the whole nervous system unbalanced, digestion impaired, the will power weakened and afflicted with an incurable "hurry habit" which has been engendered by school life. Being thus hampered and not being well equipped for any particular occupation, the student starts off in life at a great disadvantage. His capital of nerve energy has not been conserved and soon becomes exhausted. He is deficient in force and power, uncertain in business, and a prey to divers temptations, vicious habits and diseases. Then, when business cares oppress or disappointment in love affairs comes, or when domestic unhappiness hangs heavily upon his life, he is easily on the borderland of insanity and often passes over. If it is true that the mind is co-existent with the nervous system, even to its terminal filaments and throughout the great sympathetic, then it is proper in the scope of this article at least to mention the direful results of this constant high pressure of school life upon the other organs of the body, which condition we might call, for want of a better name, insanity of the nervous system. So intimate is the nerve connection and so important the influence that scarcely a sound organ is found. Unborn generations must not be forgotten in considering remote effects. All our weaknesses, springing from whatever source, must be carried down to posterity, and the next generation of children will have a sad heritage to burden them in their effort to build successfully unless we correct the evils in our present methods of education.

Gentlemen, there is not the slightest question in my mind that the burden laid upon our children is far beyond the limits of safety, that this burden is a potent factor in the causation of in-

sanity, and that we must lighten the weight, or else in the natural course of events, effect following cause, our children will suffer greatly and posterity will reap degeneration from the seeds we are sowing. What can we do to save our children from this abject slavery, to promote their proper mental development, and to protect posterity? (1) Reduce the course of study. (2) Develop the body co-equally with the mind. (3) Institute a better classification of pupils and study individual tendencies and requirements. (4) Use object lessons rather than books. (5) Introduce industrial training as rapidly as possible. It is absolutely necessary to have abbreviated textbooks or to drop a number of books from the course and stick closer to the essentials. The textbook writer is a close student and a selfish specialist, and the scope of his branch widens in importance in his mind till he writes a book or a series of books which are the study of a lifetime; and yet our ordinary school child is expected to master 20 such in the years of rapid growth.

A large part of the general information crowded into school life is forgotten before the child is grown and would come later in life unconsciously and without effort, and it should be omitted from the course. Better physical development is of paramount importance if we would have a well balanced life. In times gone by our children lived more in the country districts under the best possible conditions for natural growth, and they grew up strong and healthy in body and mind. But now we are given more to city life with its follies and excitement and morbid development of the brain and nervous system at the expense of the body. The body needs better care now than at any time in the history of man and should be guarded and developed as carefully as the mind. In the near future the school must be equipped with a gymnasium and all pupils should be required to take the exercises, which, of course, will be wisely adjusted to each individual under medical supervision. Better classification is urgently necessary. Pupils should be classified according to disposition and aptitude, studied individually and developed in accordance with nature's gifts.

It is an agreeable change to pass from our careworn classes to the happy groups of public school children in Washington city and watch their interesting faces and the easy manner as they go from place to place all over the city and in the country studying things as they really are, with the objects before them. They look healthy and happy and are being taught methods of observation which will benefit them permanently in the affairs of life and they are largely free from the distressing burdens of those we have left behind.

Industrial training perhaps offers the best relief from the present system of oppression. We need industrial departments that will train the hands for useful occupation along the lines marked out by nature so that the pupil may be ready for immediate usefulness when school is finished. It would not only relieve the oppressive

burden of many useless books and thus lighten the strain, but the pupil would have congenial employment in his student days and when grown would be well equipped for a successful and contented life, and therefore less liable to mental alienation. I would not be understood as opposing higher education or the broadest culture. Those who are capable, industrious and healthy will attain eminence under any and all circumstances, and many will stand very heavy work. I am pleading for the great majority who are struggling under impossible burdens, and urging that our schools shall be adjusted to them, and so arranged that body, mind and morals shall be symmetrically developed, without such a terrific strain, and that they may be given training which will fit them for usefulness and make them competent, independent and contented, with minds intact.

Every human creature is responsible to his fellow man in the exact measure of his influence and opportunity, but the doctor has a double responsibility in matters of education, for he follows the child from infancy throughout the period of development and he is expected to advise wisely in all things. The physician's greatest responsibility, as well as opportunity, is in preventing disease, and there has never been in human history a danger that called louder for his beneficent aid than is found in the school life of our children to-day.

In conclusion, gentlemen of the association, I appeal to you in the name of over-burdened pupils and careworn teachers to investigate the condition of our schools, and to give this subject your best thought, and to use your influence energetically for reforms that will correct the evils of our educational methods. My intention has been not so much to suggest remedies, as to call attention to the conditions and to set you to thinking. When we have attained a system of education which permits and promotes the natural evolution of the whole human creature without undue strain, and which utilizes the best of nature's gifts, then contentment in life will follow and insanity in many forms will materially decrease.

Then and not till then can it be said that the physician has met this great responsibility wisely and that he has done his whole duty to the millions of suffering children who stand about him trembling under their grievous burdens, mutely appealing to him for relief.

## MEDICAL PROGRESS.

### SURGERY.

**A New Use for the Appendix.**—A very ingenious idea is advanced for the use of that supposedly superfluous human appendix. R. F. WEAVER (Med. Rec., August 9, 1902) shows the advisability of making an artificial anus at the cecum, or in the upper portion of the colon, in those persistent and intractable cases of colitis which frequently prove fatal under medical treatment. He had done one operation of this kind in which he made a Kader-Gibson fistula, by placing a medium-sized catheter in a small opening in the cecum and applying



two or three rows of purse-string sutures so as to invert the adjacent peritoneal coat. When he was about to do another case the appendix presented itself so easily that he at once made use of it in his operation. He served the tip of the appendix into the wound and then, opening the end, ran a small catheter through its lumen into the cecum. If one were sure that it was patent it would be unnecessary to open the appendix till adhesions had formed. Irrigations were subsequently carried on through this organ, and the case made a good recovery. The danger of shock and peritonitis is very much lessened by this means, and the subsequent treatment in closing or removing the appendix is comparatively simple and entails very little danger.

**Pneumococcus Peritonitis.**—Two cases of circumscribed intra-abdominal abscess have been observed by F. DE QUERVAIN (Correspbl. f. Schweiz. Arzt., August 1, 1902) where pneumococci were found as cause. Owing to their position in the right iliac region they simulated perityphlitic abscesses, and in one, where there was occasion to remove the appendix later, pneumococci were also found in the lumen, though the walls were but slightly diseased. Both patients were girls, a prominent symptom of the disease was herpes labialis, and the germs proved to be highly virulent for animals. In these and other cases described the onset was very stormy, and was followed by a more quiescent stage with encapsulation and eventually the formation of a fistula in the region of the umbilicus, through which the pus discharges. Some die during the acute stage, but the majority run so chronic a course that tuberculosis is suspected. In not all is the location the right flank and the origin so evidently appendicular, but it is probable that in most the germs are derived from the intestines, which they reach in a still virulent condition, owing to lack of acid in the stomach. Objectively there never is any distinct resistance or edema of the subserous tissues. It is a strange and unexplained fact that girls are more often affected than boys. In conclusion, the following etiological subdivision is suggested: (1) Secondary cases, caused by infection of the peritoneum from a primary focus, which may be the upper respiratory or alimentary tract, the lungs and pleura, the gastro-intestinal tract, by way of chronic ulcers after trauma or pneumococci enteritis, or through the appendix, and lastly the female genital tract. 2. Primary cases, the treatment being the same as for other intra-abdominal abscesses.

**Cystoscopic Experiences.**—It has been the good fortune of B. GOLDBERG (Münch. med. Woch., July 15, 1902) to examine a large number of cases with the cystoscope, and he gives his experience in an interesting article. For prostatic hypertrophy the use of the instrument as a rule is unnecessary, as the symptoms and the rectal palpation leave little doubt as to the nature of the condition, but when it is used there may be some difficulty owing to the lengthening of the urethra, the size of the prostate and the tendency to hemorrhage, and on this account the instrument has been modified in various ways. It is well to cystoscope when determining which operation would be best suited for a case, especially when contemplating a Bottini, as the relations can thus be best studied. For cystitis pure and simple the appearance of pus in the urine is a much more delicate test, but the pus may descend from the kidneys or ascend from the prostate, so that a cystoscopy may be desirable to determine its origin. The same may be said of tuberculous cystitis, but it is not good to cystoscope here if a focus is present in the urethra or prostate, for there is danger of secondarily infecting the bladder. It must be remembered

that in a great many cases the find of tubercle bacilli in the urine is positive and sufficient for a diagnosis. Turning now to vesical stones, the instrument will determine the number, size, position and complication of stones, but one cannot ascertain their friability, for which purpose the lithotriptor is essential, and with this alone, as a rule, all the necessary examinations can be made. Of much more value are examinations for vesical tumors, but a bad cystitis or hemorrhages may make them impossible, and if a tumor develops in the muscularis it is only when a distinct prominence is formed that it can be seen.

**Malignant Stricture of the Esophagus.**—The diagnosis and treatment of malignant stricture of the esophagus are very important matters because this viscus traverses the thorax and enters the abdomen in close proximity to important organs. Naturally the symptoms vary according as the growth is in the upper, the middle, or the lower third. C. J. SYMONDS (Lancet, August 9, 1902) summarizes the broad principles of diagnosis by stating: (1) Among early symptoms one may have so-called dyspepsia, nausea and repulsion for food; pain alone when the central district is affected; (2) the passage of a bougie is the only way to clear up the case, and its gentle, precise employment need not be feared; (3) extra-esophageal disease rarely gives rise to serious dysphagia; (4) spasmodic obstruction, apart from the hysterical form, has always, when decided, an organic cause, and this would be better called intermittent dysphagia; (5) with regard to the three special districts it may be said (a) that all organic obstruction in the upper third is malignant and has a special tendency to cicatrize, (b) that in the central half of the gullet a sarcoma or a myoma, both rare diseases, may cause fatal obstruction—and here also a pouch may give rise to difficulty in diagnosis, but can generally be excluded—and (c) that in the lower end alone does simple stenosis occur—and here there may be difficulty in distinguishing it from cancer of the stomach, causing great reduction of the cavity (leather-bottle stomach); (6) finally, in estimating the extent of the disease, the special value of the steel bulb is noted and also the use of the coué bougie in obstruction at the lower end. The broad principles of treatment he discusses in full. Speaking generally, he remarks, it may be said that one can relieve by mechanical means only, and that two methods are available, one to overcome obstruction by inserting a tube of some kind, and the second to open the stomach below the obstruction, i.e., to perform gastrostomy. He would put the general question of treatment in the following way as applying to all cases: (1) While the patient can swallow fluids and semisolids, and while a bougie can be passed and plenty of nourishment taken, he may be left alone as long as (a) he can swallow well, or (b) a small bougie, No. 12 catheter gauge, can be passed; (2) if the dysphagia increases, even though a bougie can be passed, then a tube must be inserted or gastrostomy must be performed, these conditions being seen in the soft fungating forms; (3) if a bougie cannot be passed, or goes with difficulty, then the same course must be followed, as complete closure may occur at any time; (4) if both conditions arise, i.e., if the patient cannot swallow and a bougie cannot be passed, then immediate mechanical treatment is required. Probably most authors have summarized their treatment in some such fashion. He has not advocated the passage of bougies with a view of dilating the stricture. It is injurious in that it irritates and leads to increase of obstruction; it may split a hard stricture and set up rigor and fever from absorption. In his own practice he has

abandoned this method in all malignant cases. The object of the small bougie, to which he has referred, is simply to secure the route so that at any time a rather small tube can be passed for feeding purposes, or the time fixed for gastrostomy. Any such treatment beyond this has, in his experience, proved injurious. As applying to all cases, he refers to the advantage of attempting the passage of a tube after a night's rest and a dose of opium.

**Intestinal Suture.**—The question of putting sutures through and through the entire intestinal wall, in order to gain firm support, is discussed in the following terms by C. N. DOWD (Ann. of Surg., July, 1902) in a paper concerning gangrenous intussusception. The method of intestinal suture which the physician prefers he describes in the following terms: The first stitch is taken at the mesenteric border; it passes through the entire intestinal wall and through both layers of the peritoneum as they pass from the intestinal wall to form the mesentery. When it is tied the peritoneal surfaces are in close apposition and have the support of the entire thickness of the intestinal wall. A stitch is first taken on each side of this to strengthen the union, and then a row of stitches about the entire circumference of the intestine, entering the mucous membrane one-eighth or three-sixteenths inch from the cut margin and emerging from the serous coat, then entering the serous coat of the other intestinal end at a corresponding place, and emerging from the mucous membrane. These stitches pass over the inverted edge of the intestine and are tied there. A knot is made after every third insertion of the needle. These knots are formed by tying the free end of the thread, which is left protruding from the stitch-hole, with the double thread which emerges from the other side of this hole. If one of the threads leading from this knot is left uncut the stitching may be continued with the same needle and thread. There is no difficulty in inserting these stitches without special appliances; mouse-tooth forceps, sewing-silk, and needle are all the appliances needed. While the stitches are being placed the edges of the intestine may be held taut with the mouse-tooth forceps or a silk thread. After insertion of the last suture the stitches need in no place be more than one-eighth inch apart, and the peritoneal surfaces are in firm apposition throughout the entire circumference of the intestine. This row of stitches is then reinforced by an outer row of Cushing sutures, which include the serous, muscular, and submucous layers, and which are knotted after every third or fourth insertion of the needle.

**Hemorrhage into the Omental Bursa.**—A peculiar case of hemorrhage into the omental bursa, feigning symptoms of acute intestinal obstruction, has been observed by K. GRASSMAN (Münch. med. Woch., August 12, 1902). The patient, a perfectly healthy man, was seized suddenly with collapse after a meal, and the bowels could not be made to move after a number of enemata. Laparotomy was performed, with cocaine anesthesia, and the entire peritoneum was found filled with blood, which seemed to come from the lesser omental pouch. On autopsy, it was discovered that an adenomatous growth in the Spiegelian lobe had ruptured the liver and thus given rise to the bleeding. The case illustrates well the difficulty, and even the impossibility sometimes, of making a correct diagnosis in abdominal conditions.

**Efficiency of Collargol.**—To determine the efficiency of soluble silver, R. THOMMSDORFF (Münch. med. Woch., August 5, 1902) injected the drug into the veins of animals with artificially produced septicemia, in doses corresponding to 5-20 c.c. of a 1 per cent. solution in

man. All animals treated with collargol died in about the same time as control animals. Even when the dose was increased tenfold only negative results could be recorded. In other experiments Bocelli's method, the intravenous injection of sublimate, was tried with no better success. It would be improper, however, to discontinue the use of collargol in the treatment of sepsis in man, since, on the whole, the clinical reports are very favorable.

**Cancer Statistics.**—The statistics of this disease have usually been based on purely clinical diagnoses, and the value of observations made at autopsy are commented on by W. RIECHELMANN (Berlin. klin. Woch., August 4, 1902). In a series of 7,790 autopsies, performed during a period of six years at a Berlin hospital, he found 711 cases with a pathological diagnosis of carcinoma. In 156 cases—almost 22 per cent.—the diagnosis could not be or was not made before death. Considering the susceptibility of the sexes, it seems that in general both are about equally affected. If, however, the varieties of tumor peculiar to each sex are eliminated, the proportions change, the male being the more often afflicted. The male sex is more susceptible to carcinoma of the esophagus, stomach, larynx, lungs and face, the female to carcinoma of the genitals, gall-bladder and mammae. The author also found a notably large number of cases in which the bronchi, the lungs or the pancreas were involved. He believes that the increase in the number of cancer cases may be accounted for by the fact that a greater number of persons reach the susceptible age, by the improved methods of diagnosis, and by the appearance in statistics of anatomical instead of clinical diagnoses.

#### OBSTETRICS AND GYNECOLOGY.

**Carcinoma in Women.**—The technic for operation for cancer in women is so familiar to every one at the present time that the most important single feature of this disease is early diagnosis. W. J. SINCLAIR (Lancet, August 9, 1902) summarizes the reasons why early diagnoses are less frequently made than they should be under the following four heads. Thorough familiarity with these cautions will probably aid in indicating cancer at a time when modern surgery will have the best opportunity of cure. (1) The patients are not so well trained and disciplined as German and other women in Continental Europe. They naturally hesitate when they think of going to a medical man to tell of their symptoms, and they neglect the most ominous symptoms with a light heart because they suffer no pain. The consequence is that as a rule cancer patients consult the medical practitioner when it is clearly too late to do any operation justifying the hope of cure or even prolonged immunity, and in many cases advice is sought for the first time only when it is almost too late to palliate. (2) This is clearly the most important of the many diseases regarding which the interests of the general practitioner in the subject and his influence with his patients are the chief ground for hope of ameliorations. To him the patient first appeals, and consequently on him depends whether or not steps shall be taken promptly to bring the best resources of medical science to bear on individual cases. The criticism may be ventured, and is suggested by common experience, that all are not sufficiently insistent on physical examination, even when there is *prima facie* evidence that the cause of the symptoms is malignant disease. It is a painful fact and food for humble reflection that one still sees presenting themselves at the hospitals poor women who have been under medical treatment for a considerable time without an examination being suggested to them, even though the first symptoms



they mention, also their ages and the appearance they present should at once suggest the presence of cancer.

(3) Among the causes leading to late diagnosis of malignant disease of the uterus—partly due to tardy presentation of themselves by patients, and partly to the postponement of examination—is the prevalent superstition with regard to a “climacteric hemorrhage.” There can be no hesitation in saying with entire conviction that “climacteric hemorrhage” is, like the collective term “cancer,” one of the inherited burdens which physicians drag along with them to their hindrance and grievous detriment. Apart from pathological conditions usually diagnosable there is no such phenomenon in nature. (4) Another popular delusion which stands in the way of early diagnosis of cancer of the uterus is the belief that pain is an invariable symptom of cancer. When the sufferer from cancer begins to complain of pain, a gynecologist knows that the disease is too far advanced for radical treatment. The question naturally arises, How is this universal ignorance to be dissipated? If patients only knew what symptoms were suspicious, the fear of death would overcome the natural shrinking from examination and the medical adviser would be taken early into confidence. The nature of the subject precludes the popularizing of knowledge by ordinary methods, but a great deal more might be done by the means now available. Dr. Lewers makes the helpful suggestion in the Practitioner for June that a cancer research commission might be the agency of diffusing knowledge of the subject through nurses, district visitors, sanitary associations and others who come into intimate relations with the more ignorant and poorer classes of the community.

**Treatment of Extra-Uterine Pregnancy.**—There is hardly much question at the present time that the proper management of most cases of ectopic gestation rests in operation. The abdominal incision is the one most practised, but even with all modern methods there is danger of shock, infection and hernia. For this reason, A. RIECK (Münch. med. Woch., August 5, 1902) highly recommends the vaginal route. The incision is made between uterus and bladder, and the uterus with its adnexa brought out and a typical salpingotomy performed. For those accustomed to operate in the vagina the procedure is not difficult, and there are virtually no dangers connected with it. The patients pass wind and feel well by the second day, and are allowed to get up after two or three weeks and to resume their work in two weeks more. After this time the vaginal scar is so insignificant as scarcely to be noticed.

**Leucocyte Count in Pregnancy.**—An extended series of observations to determine any deviation from the normal conditions in pregnancy, have been made by W. ZANGEMEISTER and M. WAGNER (Deut. med. Woch., July 31, 1902). In the first place they found that the leucocytes varied within the same limits in pregnant as in other healthy women. Secondly, during the course of a labor they found with few exceptions an increase in the number of leucocytes, seeming more marked in difficult labors, when the pelvis was small or instrumental interference was due to other causes. The highest point in the count was always present just before complete delivery. During a normal puerperium the number of white cells begins to decrease within a few hours after birth and continues steadily until the normal is reached. After versions with manual extraction or other operations the count usually remains high for a longer time. In pathological states, where slight rises of temperature and putrid lochia were present, no marked changes were observed. The latter could only be demonstrated in undoubted septic cases. The authors do not think that the

leucocyte count is of any decided diagnostic value in puerperal fever. Their observations show, however, that even physiological conditions such as childbirth may be accompanied by an increase in the number of white cells such as we are apt to find in severe infectious processes.

**Myxedema, Parturition and Eclampsia.**—A case presenting the combination of these three conditions came under the observation of A. HERRGOTT (Ann. de Gyn. et d'Obstet., July 1, 1902). A myxedematous girl, eighteen years of age, having become pregnant, which is the exception, was taken in the course of her accouchement with eclamptic seizures, although her urine contained no albumin. In view of the nervous manifestations following thyroidectomy (operative tetany), it seems that in this case the convulsive attacks which have so much in common with operative tetany were due to the insufficiency of the parathyroids, which are underdeveloped or altered in myxedema. In a word, if the eclampsias so far known are due to renal or hepatic insufficiency, may one not speak of an additional form resulting from insufficiency of the thyroid body, particularly of the parathyroids?

### PATHOLOGY.

**Influence of Spleen on Hemolytic Properties of Blood-Serum.**—The fact that hyperplasia of the spleen occurs in infectious diseases and that the spleen seems to amass and consequently arrest the further distribution of micro-organisms, have led I. LEVIN (Jour. of Med. Res., June, 1902) to determine whether the organ possesses any influence on the hemolytic properties of blood-serum. The following experiments were performed: Six rabbits were immunized against bullock's blood; then the spleen was extirpated, and a week later the serum tested for hemolytic power. From four rabbits the spleen was extirpated and immediately afterwards immunization began, while with six a few weeks were allowed to elapse. The conclusions are that the spleen is undoubtedly not indispensable for the acquired or the natural hemolytic properties of the blood-serum. Nor, so far as these experiments go to show, does it appear to elaborate the substances upon which either the normal or artificial hemolytic properties of the blood-serum depend. The last question, however, needs further research with a different technic.

**Uterus in the Fetus.**—Thirteen fetuses, whose age varied from seven to nine months, were examined by C. A. HAMANN (Jour. of Med. Res., June, 1902), and more or less distinct spindle-shaped dilatations were found in all but two. There was no difference as to sexes as far as could be learned. Where the uterus crossed the iliac vessels there was a slight narrowing and the enlargement extended from  $1\frac{3}{4}$  to 3 cm. In three of the fetuses the ureter had serpentine curves, and in none were there any evidences of atresia in the urinary tract. It seems possible that the tortuosities might, in some cases, favor the development of hydro-nephrosis.

**Artificial Growth of Epithelium.**—By transplanting epithelium into agar or blood-serum in the living animal, changes could be observed by L. LORE (Jour. of Med. Res., June, 1902) resembling those taking place in carcinomatous epithelium. Of the structural peculiarities, some were caused by degenerative processes in the epithelial cells, others by inclusion of foreign particles in the cells, still others by foreign bodies determining the arrangement of the epithelial cells. These experiments may aid in determining what changes in carcinoma are produced by degeneration of the cells and what changes are produced by the presence of foreign bodies.

The inclusion of blood-serum in epithelial cells can be observed as early as five days after operation, and can still be seen after 12 days. Pigmented epithelial cells transplanted into blood-serum show in the first 12 days the same changes in pigmentation which were found to take place in epithelium when it is regenerated in the usual way upon connective tissue. The more pronounced degenerative changes in epithelium transplanted into blood-serum began to take place about the eighth day after transplantation. All these facts prove that the changes found in carcinoma are not caused by any specific influence, but are determined by the character of the epithelial cells under the influence of chemically indifferent foreign substances.

**Contribution to the Parasitic Tumor Theory.**—A tumor, myxosarcomatous in character, was accidentally discovered in the lungs of a horse by L. FROTHINGHAM (Jour. of Med. Res., June, 1902) and from it a torula was isolated. Inoculations of rabbits and guinea-pigs with material from the original lesion and with pure cultures of the torula obtained from it reproduced similar lesions in these animals, and also, if time permitted, metastases. The lesions seemed to be a purely inflammatory reaction of the tissues. The epithelial cells were found necrosed or uninjured but there never was any proliferation.

**Transplantation of Tumors.**—A set of experiments to determine whether tumors could be successfully transplanted, conducted by L. LOEB (Jour. of Med. Res., June, 1902) were on the whole successful, especially in a series of transplantations of the sarcomatous part of a mixed adenocarcino-sarcoma of the thyroid in a rat, provided the same species of animal was used. Owing to structural peculiarities, the new growths could not be regarded as granulomata, but as true sarcomata. The sarcomata found in different rats showed some differences, based on differences in the cells and on differences in the formation of fibers and in the degenerative processes which take place. These differences are present though these sarcomata originated in the connective tissue of the same part of the body. They were reproduced throughout both series of transplantations which were carried through about 48 generations respectively. Certain factors in the constitution of the tumors were constant and others variable, and the possibility must be admitted that the relation of sarcoma cells to blood-vessels might be dependent on nutritive and functional and not alone on genetic relations. The growing sarcomata had the power to penetrate into the central necrotic part of the transplanted piece, which became liquefied, probably under the influence of proteolytic ferments. In the second series all attempts to produce tumors by transplantation of pieces or by injection of tumor fluids in white mice, guinea-pigs or rabbits have been without result; and in both series pieces of tumor which was infected at the time of operation frequently gave rise to the growth of sarcomata, the cells seeming to have considerable power of resistance to bacterial toxins. Fluid obtained by mincing the tumor with addition of normal salt solution did not produce sarcomata. The question as to individual immunity was difficult to prove, owing to several complicated factors. Local and contact metastases were also formed in the second series of transplantation, and secondary nodules were frequently found if ulceration of some part of the tumor had taken place. The growth of the original tumor was generally slower than the growth usually observed in the transplanted pieces. A series of experiments were undertaken to determine how long pieces cut out from tumors could be kept on ice and yet develop sarcomata after transplantation, and it was

found that the tumor-producing agency was not destroyed or even markedly attenuated after five days. Experiments on the influence of Roentgen rays were begun, and after seven exposures of 10 minutes each the sarcoma cells continued to multiply by mitosis and developed readily after transplantation, though there was some degenerative softening in the center. Similar experiments are recorded in an article by M. Herzog, who made over 50 successful transplantations extending over eight tumor generations, and his Roentgen-ray exposures in some cases showed a softening and decrease in size of the tumors. Inoculation done with the intention of producing a tumor from absolutely cell-free substances derived from sarcomata, all proved unsuccessful.

#### **The Pathogenesis of Exophthalmic Goiter.**

It had been found by certain investigators, as the result of experiments on rabbits, that wounding the restiform bodies produces many of the symptoms of Basedow's disease. E. TEDESCHKE (Rev. neurol., July 30, 1902) performed the same experiments on dogs, and found, in addition to the symptoms above revealed, polyuria, glycosuria, trembling, sometimes voracity of appetite, and sometimes complete anorexia. He draws the following conclusions: In animals a lesion of restiform bodies, especially of their anterior portion, produces the Basedowean syndrome. In animals thus treated, and in which the symptoms have diminished or disappeared, one can reawaken them in whole or in part by hyperthyroidization. A lesion of the restiform bodies in thyroidectomized animals does not produce the symptoms of Basedow's disease. On the other hand, in animals in which this disease has been produced by a lesion of the restiform bodies, thyroidectomy diminishes or causes the disappearance of the greater part or all of the symptoms.

#### **The Appearance of Glycogen under Pathological Conditions.**

Physiologists have taught that glycogen is one of the normal constituents of white blood-cells. But according to F. KATSURADA (Beitr. z. path. Anat., vol. 32, No. 2), leucocytes freshly emigrated from the blood-vessels do not contain glycogen in appreciably measurable quantities. After the lapse of a certain period of time such emigrated leucocytes begin to show a distinct glycogenic reaction. This reaction also appears when leucocytes contained within the vessels have undergone degenerative changes.

**Pathology of Hyper- and Anacidity.**—Since opportunities to do autopsies in cases of pure hyper- or anacidity of the stomach are obviously very rare, it is not known if any changes exist in the mucous membrane of the stomach. M. CLOETTA (Münch. med. Woch., August 12, 1902) states that attempts have been made to scrape off pieces of the mucous membrane for examination with a specially constructed sound, and that a proliferation of glands has thus been found where too much hydrochloric acid was secreted. Another method, however, has been reported to by the author. It is well known that growing dogs when kept exclusively on milk show no acid in the stomach, while if fed on milk the amount of this will be above normal. Accordingly several dogs were kept on the two diets for almost a year, and then their stomachs examined almost immediately after they were killed. The results were a great disappointment, since no anatomical changes could be found. It is probable that both conditions must be regarded as neuroses.

#### **BACTERIOLOGY.**

**Varieties of Diphtheria Bacillus.**—There are two opposite views held with regard to the diphtheria bacil-



lus and the many varieties resembling it; one, that the diphtheria-like bacilli are simply transitory variations and that their form, cultural characteristics and pathogenicity all vary within a wide limit, so that one form may assume readily the properties of another; the other, that certain forms possess such stable properties that one is not converted into another, and each must be regarded as a distinct species. In an extended paper on this intricate subject, A. W. WILLIAMS (*Jour. of Med. Res.*, June, 1902) attempts to show that not only are there definite and distinct species, but that each species has distinct subspecies and varieties with characteristics which continue to persist under different conditions. Thus varieties as well as species remain separate, and when grown under similar conditions the species show no tendency to become converted the one into the other, while the varieties gradually change, approaching a common norm. Since in a series of 10 cases of clinically typical diphtheria only one variety of the specifically virulent diphtheria bacillus was obtained from the throat of each case throughout the course of the disease; since from different parts of the same patient only one variety was isolated, and since pseudovarieties were found no more frequently at the end than at the beginning of the disease, it is safe to infer that specifically virulent bacilli do not readily, if ever, change into any form of non-virulent diphtheria bacilli in throats, or noses of people during an attack of diphtheria. In a second group a number of healthy throats were examined and many distinct varieties of diphtheria-like bacilli were found, all of which, however, in serial pure culture, retained their characteristics. From a third group the inference was drawn that not only does a variety of the bacillus retain its characteristics for some time in the same throat, but that it may be transferred to other throats without losing its individuality. Finally a number of cultures were examined which had been kept in the laboratory for years. These were freshly inoculated every few days, and but few changes were found in the general shape and properties of the bacilli, as compared with the original observation.

**Agglutinating Properties of Plague-Serum.**—A contribution to the discussion of this subject is made by A. AUJESKY and J. WENHARDT (*Berlin. klin. Woch.*, August 11, 1902). After an exhaustive series of experiments they found that the blood-serum of a healthy horse is capable of agglutinating the plague bacillus, but only in a dilution less than one in 10. The plague-serum itself, when concentrated (less than one in five), causes agglutination not only of the plague bacillus but also of other bacteria. The blood of normal persons does not produce agglutination, and the same result is seen in those afflicted with tuberculosis. After immunization with plague-serum, however, human blood often acquires this property. The urine also develops a like phenomenon. The serum of guinea-pigs does not cause agglutination even after the inoculation of Haffkine's virus. The authors have found that this can be employed for agglutination tests, but the reaction is not nearly so marked as if produced by the living bacillus.

#### GENITO-URINARY AND SKINS DISEASES.

**Dermatitis Due to Colon Bacillus.**—This organism is found in external wounds, but is usually present in association with the streptococcus pyogenes. H. G. ANTHONY (*Jour. of Cut. and G.-U. Dis.*, August, 1902) reports a case of dermatitis on the hand, which from other lesions which the patient presented was diagnosed as tuberculous. No tubercle bacilli were ever found, and the only organism isolated from the pus was the bacillus coli communis in large numbers. The author

is not ready to exclude the possibility of a primary streptococcus infection, nor to affirm on the authority of a single case that the colon bacillus is alone capable of producing such a lesion.

**Lupus Erythematoses.**—The etiology of this condition has thus far never been definitely determined. Infection by the tubercle bacillus has usually been considered by many as the cause, but the bacillus has never been definitely demonstrated, nor have methods of treatment which influenced ordinary lupus been of any avail. E. HOLLÄNDER (*Berlin. klin. Woch.*, July 28, 1902) has found the following treatment very effective, and submits certain considerations as to the etiology of the disease. He administers the muriate or sulphate of quinine in  $7\frac{1}{2}$  gr. doses t.i.d., and about 10 minutes later gives the affected areas several coats of tincture of iodine. This is continued for five or six days, and after a like interval of rest is again administered. If the reaction is slight, the dose may be increased. Treatment is kept up until the crusts can be readily removed and all pruritus has disappeared. The result in early cases is restitution of the skin to a normal condition. In older cases scars result. The author has had almost universal success in nine cases treated by this method, and he believes that it throws some light on the etiology of the affection. But whether this disease is due to the invasion of the glands of the skin by some irritant body, to an anomaly of the secretions, or to an excretion of toxins, the fact remains that the excretion of quinine by the sweat-glands has a beneficial effect. The latter may be due to a destruction of the irritants or to a regulating influence on the secretions. The iodine, he believes, has a strictly local effect.

**Transvesical Cauterization of the Prostate.**—The well-known difficulties of the Böttini operation on the prostate require no repetition here, but are sufficiently familiar to every operator to have it granted that they constitute cautions of great importance from the beginning to the end of this procedure. A. I. BOUFFLEUR (*Ann. of Surg.*, July, 1902) discusses transvesical cauterization as a substitute for the Bottini operation in the treatment of some forms of prostatic hypertrophy. The advantages of this technic he summarizes briefly as follows: (1) It admits of an accurate anatomicopathologic diagnosis which is fundamentally essential to intelligent treatment; (2) the cauterization may be made with the galvanocautery, or with the more commonly possessed Paquelin cautery, easily, rapidly and with safety, a curved cautery-blade greatly facilitating the procedure; (3) the incision may be accurately placed; (4) one may see the field of operation and the structures being cauterized; (5) the length and depth of the incision may be regulated to meet the requirements in the particular condition found; (6) the temperature of the blade is under direct ocular observation; (7) the time of application may be regulated so as to insure destruction of the tissue, and if the Paquelin is used it may be applied with sufficient force and time to make the incision, regardless of the density of the tissue; (8) there is no danger from bending of the cautery; (9) if hemorrhage does occur, its location may be definitely determined, and measures for its control intelligently and effectively employed, as has been demonstrated by Eisendrath; (10) it is applicable to all forms of enlargement projecting into the bladder, and particularly so in the removal of pedunculated lobes or valve-formations (a partial prostatectomy, followed by cauterization, being an ideal procedure for such conditions); (11) it is applicable in all cases regardless of urethral obstruction, and such obstructions may frequently be readily removed from within; (12) it admits of the removal of a calculus, or the direct treatment of an ulcer, and also admits of suprapubic

drainage if the cystitis seems to require it, or if the urethra is impermeable from within; (13) it is not as likely to be followed by infection, phlebitis, sepsis, etc., as is the uncertain urethral operation. In short, it is a simple, rational, comparatively safe and satisfactory method of applying the cautery to prostatic enlargements projecting into the bladder. It would seem to bear practically the same relationship to the urethral operation as open herniotomy bears to the blind method of dividing the constricting ring in strangulated hernia. With careful operative technic and proper catheter drainage, the possibility of the establishment of a fistula is practically eliminated, particularly so when these patients are operated upon early, before secondary changes in the bladder have occurred. The vesical mucous membrane and wound may be readily protected by compresses under retractors, and the collection of urine controlled by sponge compression or the use of the dentist's aspirator. In contracted bladder this operation would be very difficult, and should therefore be avoided. As the Bottini operation is admittedly of no value in such cases, prostatectomy or perineal drainage should be employed if operating at all is determined upon. This being an operation attended by some shock and considerable pain, a general anesthetic would of course have to be employed. This might be positively contra-indicated in some very old, feeble and nephritically septic patients, and in these the urethral route would probably be indicated. However, in this extreme class of cases, which will rapidly grow smaller since prostatic surgery is now rapidly progressing, simple vasectomy under local anesthesia offers quite as much encouragement as the Bottini operation.

#### THERAPEUTICS.

**Effect of Tonics on the Intestines.**—It is shown by A. JODLBAUER (Arch. internat. Phar. et Thér., vol. x, fasc. III and IV) that bitter tonics with the addition of sugar do not at once act upon secretion and re-absorption in the small intestines. If, however, the tests are made after the drugs have remained in the gut for an hour, resorption and secretion will be found to be markedly increased. The action seems to be specific and purely local.

**Purgatin.**—The virtues of purgatin, a new synthetic laxative, are lauded by K. V. HOSSLIN (Münch. med. Woch., August 12, 1902). The tasteless and odorless powder is readily taken, even in larger doses, without ever causing nausea or other bad after-effects, such as colic, tenesmus or repeated watery stool. After  $\frac{1}{2}$ — $1\frac{1}{2}$  grains the desired effect took place in 13 hours; after 2 grains, in 6 to 7 hours. The best time of administration is in the evening. The stools are invariably soft and voluminous and of a reddish-brown color. The patient's attention should be drawn to the fact that the urine may also contain some pigment. A tolerance is not established.

**Treatment of Migraine.**—Considering this disease as the result of toxin absorption, J. M. AIKIN (Jour. Am. Med. Assoc., August 30, 1902) has had good results from the use of diuretics, diaphoretics, and hydrogogues. In each case their efficiency is greatly increased by water as a diluent. From the inception to the conclusion of a migrainous attack, digestion is practically suspended. This condition demands the withholding of nutrients, with immediate dilution and elimination of the gastro-intestinal contents. Emesis and gastric lavage are efficient, but objectionable. A soap-suds enema, followed by high irrigation with a large quantity of hot salt solution, is preferable. Small drafts of hot water, often repeated, should also be given for six to 12 hours. Between attacks, daily and copious drink-

ing of water will lessen the severity, if not also prevent recurring paroxysms. During the prodromes vigorous acceleration of the blood-current may help to abort the attack. Any existing ocular, aural, nasal, gynecologic or rectal defect should, of course, be corrected. Diet must be carefully attended to, and the abuse of a defective nervous system be made the subject of warning.

**Action of Phosphorus.**—Since but little of the ingested phosphorus is excreted in an oxidized form, it is the opinion of K. STICH (Münch. med. Woch., August 12, 1902) that its action is a purely indirect one, and that by its presence the processes of oxydation, which are essential to life, take an abnormal course. He also believes that the ozonized oil of turpentine, which is used as an antidote, is not sufficient, in that it forms a combination with the phosphorus; since the crystals precipitated by keeping the latter in turpentine are most probably nothing but phosphorus itself. It is most logical to assume that the oxygen contained in the oil is available for the processes of oxydation, which are disturbed by the phosphorus.

**Treatment of Tuberculous Laryngitis.**—A factor of prime importance in the prevention of tuberculous laryngitis consists in treating promptly all forms of laryngitis having a tendency to become chronic, especially in tuberculous subjects. L. RETHI (C'blatt f. a. ges. Ther., August, 1902) likes the application of lactic acid in early stages where the ulcers are yet small. Somewhat more radical, but at the same time safer, is the scarification and curetting of the mucous membrane, which can be rendered painless by cocainization. It is well to follow up this treatment by lactic acid. The galvanocautery also does good service, but great care must be taken not to resort to all these means in advanced cases with progressive lung lesions. Disinfection of the surfaces is hardly ever possible, since new contamination from the lungs always takes place. Pain is best controlled by the application, especially before meals, of cocaine, eucaine, orthoform and anesthesia. Sometimes incisions into the epiglottis, or removal of portions of it, is followed by relief. Urgent dyspnea frequently makes tracheotomy necessary, and this is sometimes followed by a marked improvement, though in other cases the wearing of a tube seems to hasten the process.

#### THERAPEUTIC HINTS.

##### Edema of the Glottis.—

##### R Alum

Ac. tannici, aa gram. . . . . 5.0 (gr. lxxv)

Ext. Krameriz. . . . . 10.0 (3iiss)

Aq. q.s. ad. . . . . 500.0 (Oj)

Atomize into throat five or six times a day.—COMBY, in *Le Progrès Médical*.

##### Dandruff.—

##### R Tinct. cantharidis

Ac. carbolic

Spt. lavand.

Balsam Peruv. aa c.c. . . . . 2.0 (3ss)

Spt. rosmarin. gtt. . . . . x

Aquæ Cologniensis ad c.c. . . . . 240.0 (3iij)

—*Le Progrès Médical*.

##### Acute Laryngitis.—

##### R Menthol, gram. . . . . 3.0 (gr. xlv)

Ol. pini sylvestris

Ol. eucalypti

Tincturæ benzoin.

Tincturæ toluanae. . . . . 2.0 (3ss)

Inhale from steam-kettle or vaporizer, or when evaporated in an iron spoon over a lamp.—*Le Progrès Médical*.



# THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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## A COUNTRY'S HEALTH ITS BEST ASSET.

THE most forceful idea that the Belgian Congress stamped upon those who represented the United States of America was that if our country would avoid some of the terrible conditions of European nations it must organize its methods for prevention and treatment of venereal disorders as thoroughly as it did those against cholera and plague.

The health of its people, of its army and navy, is well called a nation's most valuable asset, and whatever the cost of its preservation, in the expenditure of money and executive energy, such outlay is a remunerative investment. Unquestionably laws must be made to control the spread of venereal diseases, and to this end bureaus or commissions should be established in existing health departments.

It was with no very great degree of pride that the American representative of the *MEDICAL NEWS* found himself one of only three men to represent the United States, while other countries had sent medical, sanitary, and legal experts to study the momentous question before the Congress. Neither did it redound to the credit of the wealthiest of nations that, with the exception of Greece, she was the only country that contributed nothing, either through her national government

or her civic bodies, to defray the expenses and increase the resources of this great international conference.

On the other hand, the example of the brilliant little kingdom of Belgium was almost startling. She contributed more than many of the greatest nations to the funds of the Congress. She entertained its members with stately dignity; her Minister of State set apart five days of his time in order that he might preside at the meetings, and whenever questions were discussed bearing on some definite and practical working method, it was Belgium that, by reason of carefully kept statistics and well-organized experiments, could best say whether an idea was chimerical or useful.

From the diverse views of thirty-six countries it would be premature to select those methods of prophylaxis which might be most applicable to our own. But the need of the country is so great, and the danger so threatening, that we insist that the United States Government, following the example of Belgium, should entrust the subject to a special convention of medical, sanitary and legal experts for discussion and suggestion of measures which may be enforced to prevent the spread of venereal diseases.

## BORIC ACID DANGERS.

THE result of a series of important and interesting observations as to the effect of boric acid upon the gastro-intestinal tract of human beings has just been announced by the Imperial Bureau of Public Health of Germany. The observations were made by one of the health officers on himself and on four subordinates in the Health Department, who voluntarily offered themselves for the experiment. During the time of the observation all concerned proceeded as usual with their ordinary occupations, taking abundant but carefully weighed diet. All the precautions necessary to prevent pathological results were duly and carefully observed. These were noticeable particularly in disturbances of nutrition and metabolism. A few days after boric acid began to be taken in appreciable quantity the absorption of fat and albumin from the intestine became markedly lessened. This led to the retention of considerable material in the intestinal canal at first, which after the lapse of a few days became liable to fermentation and proved the source of diarrhea. Associated with the failure of absorption of proteid materials there was from the very beginning an increased elimination of

water from the system. These two factors soon brought about a decrease in weight which in some cases threatened to prove serious. Notwithstanding the failure of fat absorption and the increased water elimination the persons experimented on never felt an increased hunger or thirst. The harmful effects were most insidious and might easily have escaped notice until a serious condition was reached.

The details of such observations require to be worked out with great exactness and altogether twelve experts in physiological chemistry were employed on the metabolic problems involved. It was found that boric acid is eliminated very slowly from the body, and even after a single dose traces of the drug can still be found eight days later in the secretions. It is thus seen to lend itself very readily to accumulation in the system so that when taken, even in small daily doses, there may after some days be enough of the drug present at one time to produce serious results.

The German Government has decided then that boric acid must not be employed for the preservation of foods and especially not for the prevention of fermentative changes in milk, for the drug is liable to be much more serious in its effects upon children than upon adults.

This investigation and the resultant decision should perhaps call attention to a certain possibility of the abuse of boric acid in this country. The idea has become very common that this drug is not only a good antiseptic but is absolutely harmless in its effects. The result is that solutions of boric acid of various strengths are used very copiously by many people as a nose and mouth wash, and they are employed freely as a gargle. The ingredients being considered as completely devoid of danger very few precautions are taken against swallowing the solution and there are many people who deliberately allow a certain amount of the fluid to pass into the stomach with the idea that it will do good because of its cleansing properties. Under ordinary circumstances when nasal drenching and mouth washing are practised only once a day or less often, there is no risk involved, but when much more frequent mouth and throat and even stomach ablutions are employed an amount of the drug may easily be absorbed that will seriously disturb the metabolism of delicate individuals.

The great objection to the habitual employment of any drug by the general public is the liability to abuse it because of the well-recog-

nized popular tendency to exaggerate its advantages and so employ it too freely. This was very manifest a few years ago with regard to the popular use of chlorate of potassium. Whenever there was the slightest symptom of sore throat or even sore mouth, this by no means innocuous remedy was apt to be employed much more freely than any physician would dare to prescribe it. Harm resulted in not a few cases and especially in patients who were suffering from some kidney irritation at the time the sore throat developed.

Not a few children in incipient stages of scarlatinal sore throat were dosed with the drug to the decided disadvantage of their kidneys in the subsequent effort to eliminate the toxins of the scarlet fever. Boric acid is fortunately not so dangerous a remedy as chlorate of potassium but there seems a probability of its abuse along similar lines. Physicians should realize this and warn delicate nervous patients whose tendencies to exaggerated solicitude as to cleanliness of mouth and throat and nose may lead them into too frequent employment of boric acid solutions and of the danger which the practice may involve. The realization may also serve as an explanation of obscure symptoms of nutritional disturbance which have hitherto proved baffling to medical attendants.

#### PARATYPHOID FEVER.

Most physicians of considerable experience in the management of typhoid fever have been persuaded for some time that the cases of the disease under their observation did not all belong to a single affection. Some of them, while clinically very like the classical type, were yet capable of a certain differentiation, and for not a few it was impossible to trace the source of infection with typhoid bacilli or to find any connection with previous cases of true typhoid fever. Since the introduction of the Widal test this impression has been strengthened by the fact that in all sets of statistics a definite number of cases of continued fever exhibiting all the chief clinical symptoms of true typhoid failed entirely to produce the agglutination reaction.

A series of recent contributions to this interesting and important subject seems to demonstrate that there are several diseases embraced under the designation typhoid due to bacilli bearing certain morphological relations to true typhoid bacilli but absolutely independent of them in origin. These diseases provide no protection against typhoid fever, and they furnish a basis for the frequent occurrence of certain complica-



tions not so usual in the affection due to the bacillus of Gaffky and Eberth. For these diseases the name paratyphoid fevers has been suggested. How closely these paratyphoid affections may simulate true typhoid fever may be judged from Brion and Kayser's case reported in the *Münchener medicinische Wochenschrift*, No. 15, April 12, 1902. Rose-spots were noted early in the disease; there was an enlarged spleen and the diazo-reaction was positive, and besides these there was the usual continued fever, followed by two relapses and a thrombosis of the veins of the left leg. In this case the paracolon bacillus was isolated in cultures from the blood, the urine, the feces, the vaginal secretions and the rose-spots. No typhoid bacilli were found anywhere, and the Widal test remained persistently negative during the whole course of the illness.

It seems clear then that the only positive diagnostic test for typhoid fever is the presence of the Widal reaction. Cases in which this does not occur are not true typhoid, no matter how close the clinical resemblance. Dr. Hewlett, in an article in the August number of *The American Journal of the Medical Sciences* reviews the recent literature on the subject, and shows that there is really a group of paratyphoid affections. One of these diseases seems to be due to a bacillus closely resembling that isolated in Paris nearly ten years ago from a series of infectious pneumonia cases that were traced to a corresponding malady in parrots and hence called psittacosis. Another is due to a micro-organism that resembles the bacillus known as the cause of hog-cholera, and with regard to which there was a lively discussion between Reed and Carrol and Sanarelli some two years ago in the columns of the *MEDICAL NEWS*, Sanarelli claiming to have discovered the specific cause of yellow fever in a micro-organism of this group. Both these bacterial relationships are of clinical importance and highly suggestive value because they hint at modes of infection from animals which further observation may serve to establish.

It would not be surprising to find that the typhoid-fever group of diseases contained many members. Considering the very large number of different micro-organisms that are known to exist, the limitation of the infectious diseases to which man is liable to the few so far capable of differentiation is a biological mystery. It is probable, however, that our present number of infections will be greatly increased before many years are past. Names of diseases supposed to desig-

nate a single nosological entity will be found really to represent groups of kindred but independent affections. The question of a "fourth disease" in the measles-scarlet-fever group is now freely discussed, and good authorities consider that an excellent case has been made out by the English physician Dr. Deekes for the new disease.

Until the discovery of the Widal test typhoid fever for many anomalous cases was considered one of the most difficult of diagnostic problems. The distinguished French clinician Potain declared that the discovery made by Widal solved the medical riddle of the nineteenth century. Now at the beginning of the twentieth century we find that while the serum-agglutination test has proved an extremely valuable diagnostic auxiliary it has also served to create new and even more difficult phases of the problem of diagnosis in enteric affections. The recognition and tracing of the origin of the various paratyphoid affections may prove for a time to be new riddles. The serum-agglutination test is not absolute for the differentiation of all these affections, since the sera after certain of them will agglutinate other forms of bacteria besides those directly causative of the patient's illness at the moment.

These new ideas in typhoid fever may serve to explain certain hitherto inexplicable features of the disease. Sporadic cases assumed to be typhoid fever have often been reported in which any possible connection with previous cases of the disease seemed out of the question. These cases have been regarded as justifying to a certain extent the theory that typhoid fever might originate anew without necessarily being contracted from patients admittedly suffering from the disease. Most of these cases will now fall into the group of paratyphoid fever, though their origin may remain as mysterious as before. Clinical observation may, however, step in to aid bacteriology in this matter, and may show that these affections are really communicated through animals or by some other distribution of disease.

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#### THE GENESIS OF PRACTICAL HYPNOTIC SUGGESTION.

BARON MUNCHAUSEN has passed away, and Harun-al-Raschid no longer walks the streets of Bagdad in search of miraculous adventures with which to beguile the young and overcredulous, but there seems to have been a composite reincarnation of the spirits of the two, the primary

manifestation of which is reported in the London Hospital, thinly disguised as a lecture delivered before the Kings College Medical Society.

Since hypnotism can hardly yet be classed as one of the exact sciences, and as the methods proposed for hospital and asylum administration are radically at odds with those in use in this country at the present time, it is perhaps well to quote the exact words of the essayist in order to show that if little has been extenuated still less has been set down in malice.

After describing the experiments of Florell, the late medical director of the Burgholi Asylum, and one of the professors of the University of Zurich, he goes on to say that "he had succeeded in hypnotizing all the hospital attendants, both male and female, a large proportion of them becoming profound somnambules. For ten years the most careful experiments were made in regard to the use of hypnotism in the night-watching of dangerous lunatics. Warders were hypnotized and trained to sleep by the bedside of these patients and to awake the instant they heard them attempt to get out of bed, the hypnotic suggestion being made use of to inhibit all sounds which had no reference to the duty laid upon them, and it was found that warders so hypnotized could perform night duty for six months, and work hard all day, without showing signs of fatigue."

Can anyone imagine a fairer picture than this magic ward, where the solemn silence is forever unbroken by the careless rustle of a female skirt, and the patient is never roused by the echo of a tiptoe step? The enchanted palace of the sleeping beauty, watched and guarded by a corps of trained nurses, who "work while you sleep," and still gather strength and vigor for the coming day; incapable of distraction; "inhibited" from all sounds; dead to the world; yet at her slightest movement alert and active, possessed of a motor fully warranted for six months, and of a guaranteed capacity for work through the entire twenty-four hours of the day! Could anything be so simple and withal so economical? And we are assured most earnestly by our lecturer "that for a period of over ten years these experiments were uniformly successful and no accident of any kind occurred."

As to its practical administration, he refers to and endorses the method of Wetterstrand, that replaces the short and profound trance during which the "suggestions" are imparted by one less deep but which is sustained for a much longer

period. Thus, in treating epilepsy and other serious nervous disturbances, this system—based perhaps on the principle of "love me little, love me long"—is kept up continuously for three or four weeks, during which time the patient is fed at regular intervals, but without being roused, while the action of the bowels and bladder is regulated by suggestion, these means securing, as he states, both mental and physical rest, in addition to such therapeutic advantages as might be gained by the aid of the former. He also claims that a profound impression of the hypnotic condition is not necessary for the successful employment of suggestion, and believes that there are very few people who are not in some degree susceptible to its influence. And so his field is by no means limited, either in the procurement of his "Gold-dust Twin"-like warders, or by an inability successfully to hypnotize his patients. Among the diseases in which the treatment is indicated and which it "cures" he particularly mentions hysteria, neurasthenia, dysomania and other drug habits, obsessions, moral perversities and nervous tricks in children. A goodly list surely, and quite equal to the American standard, as it claims everything, with the possible exception of its being a desirable relish "to eat on bread."

This then is the sum and substance of the latest hypnotic development, and we confess ourselves in doubt whether it is a joke of our transatlantic cousins, to be taken as the Lady of airy persiflage, or if it is written seriously and is to be regarded as the Tiger of practical and severe research. The latter, we imagine, since the British are not, as a race, given to lightsome badinage in their statements of fact, and their hospital reports are apt to be as staid and free from jests as are their comic papers.

As for the experiments, they resemble those of Shiffen, and though they do not bear, as did his, the evident earmarks of having been "made in Germany," yet they do carry the imprint of personal sincerity. So that between the horns of the dilemma there is little for us to do, perhaps, but to consider the whole matter as only one more example of "the queer things they say and the queer things they do, when it's English, you know."

**The Harlem Medical Association.**—At a meeting held June 4 officers were elected for the ensuing year as follows: President, Dr. E. L. Cocks; Vice-President, Dr. W. H. Luckett; Secretary, Dr. Percy H. Fridenberg, Treasurer, Dr. I. L. Feinberg; Trustees, Drs. J. E. Lombard, M. R. Richard and Henry Heiman.



## ECHOES AND NEWS.

## NEW YORK.

**To Fight Tuberculosis.**—The Charity Organization Society's Committee on Tuberculosis needs at least \$10,000 to meet the expenses of the work it has undertaken, and has issued an appeal for contributions. The money is needed to make possible further research into the social aspects of tuberculosis, for the distribution of pamphlets containing the results of scientific research and of modern treatment, for the encouragement of movements for public and private sanatoriums, and for the relief of indigent consumptives. The work is one which the society has made peculiarly its own, and which promises to be of great and immediate value to the community.

**Bellevue Hospital Changes.**—It was announced last week that Drs. Valentine Wildman and Allen Fitch, examiners in the department of lunacy, Bellevue Hospital, had resigned; that Major Russell, one of the stewards, had been suspended, pending charges against him, and that Chief Clerk Gleason had resigned on notification of his suspension. The facts were that although the steward and the clerk had been suspended, there was no great trouble in the hospital. Drs. Wildman and Fitch had been notified that at a recent meeting of the trustees it had been recommended that the pavilion for the insane should have three resident physicians, and that the former method of employing two visiting physicians who could spend only two hours a day at the hospital be abolished. They therefore tendered their resignations. Dr. Fitch said that as he wanted to go to Europe he would like to be relieved of duty at once. Dr. Wildman wrote that he would remain until the new system should be inaugurated.

**Needs of the City Hospitals.**—Commissioner Folks summarizes the present and future needs of the Department of Charities as follows: Extensive changes in existing buildings to introduce modern plumbing, heating and ventilating systems; the construction at the various hospitals and almshouses of separate buildings for the accommodation of employees; additional almshouse accommodation, both on Blackwell's Island and at Flatbush. It is the purpose of the Commissioner, as far as possible, to develop the Richmond county poor-farm, consisting of 114 acres; but he is of the opinion that, with the rapid growth of the city, the almshouse accommodation on Blackwell's Island and in Brooklyn must also be increased. He suggests, as a measure of economy, an electric lighting plant on Blackwell's Island for all the institutions located there. More hospital accommodation should be provided for consumptives. A hospital for convalescents should be built upon the island, in which those who no longer need medical treatment, but who do require a period of rest for complete convalescence, may get the rest they need prior to their discharge, so that when discharged they may resume their usual occupations.

**Separation of Charities and Politics.**—The chairmen of the Republican and Democratic State committees received last week a communication asking that their respective parties approve the policy of the absolute separation of public charitable administration from partisan politics. The communication was as follows: "The undersigned, acting individually, and as the representatives of others interested in the welfare of the unfortunate in this State who are dependent upon public care for support, respectfully request the two great political parties in this State to include the following principles in their respective platforms in the coming conventions:

First—That the administration of the State hospitals for the insane, State charitable and reformatory institutions, and the State prisons be absolutely free from partisan influences of every description. Second—That these institutions be conducted on progressive lines, with due regard to economy, particularly of that form which is to be secured by scientific improvement of administration, and for the welfare of the inmates of the institutions and the protection of the State against the evils of disease, dependency and crime. Third—That citizens of the State acquainted by service and experience with its philanthropic activities should be invited to share in the management of the State institutions as a means of preserving these institutions from all danger of political influences which would be a great detriment to the unfortunates under their care and a lasting injury to the State." The appeal was signed by 10 of the most prominent and public-spirited citizens of New York.

**The Board of Health and the Schools.**—Several changes are to be made in the methods of the Health Board Inspectors in examining the children of the public schools. As far as possible, pupils are to be examined in rooms other than regular classrooms. The inspectors have already been instructed not to use their bare hands in examining children's eyes. Tufts of sterilized cotton must be used above and below the eyelids. These changes are brought about as a direct result of certain representations, on behalf of parents and teachers, made to Dr. Lederle, President of the Health Board, by Superintendent William H. Maxwell of the public schools. Severe criticism of the Health Inspectors' methods at the schools has been made, and Dr. Lederle, Dr. Maxwell and President Charles C. Burlingham of the Board of Education have had several conferences on the question lately. Rumors have had it that there was a serious disagreement between representatives of the public schools and the Health Department. It can be said, however, that whatever differences there were between these two departments were largely the result of a misunderstanding which has been cleared away. At the last meeting of the School Board Executive Committee before the summer vacation, Dr. Lederle presented a request that the Health Officer be allotted one room in every school for examining the children. That request was refused as unnecessary, and from that refusal dates most of the friction. In the building of future public schools, it has now been decided that the specifications shall include a room for the special use of the Health Department.

## PHILADELPHIA.

**Additional Gift to Hospital.**—Mr. Meyer Guggenheim of New York has added \$20,000 to his original gift of \$60,000 for the erection of a building for private patients at the Jewish Hospital. The structure is to have four stories instead of three as at first intended.

**Varying Opinions as to Almshouse Superintendent.**—Some of the members of the Department of Charities and Correction disagree with the suggestion of a local medical journal that the superintendent of the almshouse and Philadelphia Hospital should be a physician. Acting President McLaughlin states that what is wanted in an institution like the one in question is a superintendent of wide practical business experience and humanitarian principles. Another member of the board says that to merge the position of resident physician in that of superintendent, with a physician occupying the dual

office, would not be for the best interests of the institution.

**National Prison Congress.**—Many topics of interest were discussed at the sessions of the National Prison Congress held in this city during the past week—prison discipline, the whipping-post, juvenile courts, giving of newspapers to prison inmates, etc. The meeting of 1903 will be held at Louisville.

**The Proctor Memorial.**—At the final session of the American Pharmaceutical Association a perpetual memorial to William Proctor was decided upon. About \$18,000 has been raised, and this sum will be applied to the award of a gold medal to be struck not more than once in three years, for the man who shall be adjudged to have most advanced the cause of pharmacy. The memorial will be known as the Proctor-Squibb medal, in order to honor also the name of the late E. R. Squibb of New York.

**State Medical Society Notes.**—The meeting at Al-lentown was one of the most profitable of recent years. The entertainment committee was very successful in its efforts to make the meeting pleasant socially, and the papers read were, if anything, above the standard of last year. There is still too much repetition of text-book and current literature in articles written to "report a case." The only serious mistake was the placing of the exhibit on the stage of the theater in which the meeting was held. During the unpacking of the first day and the packing of the last the noise was almost intolerable and interfered greatly with the program. The exhibit was mainly of drugs and instruments, though some scientific work was shown.

**Charter Denied to Christian Scientists.**—Judge Arnold of the Common Pleas Court has refused to grant a charter to the First Church of Christ, Scientist. This is the second time a charter has been refused, several opinions for refusal being given by various judges. One was on the grounds of practicing medicine without due legal authorization, for teaching that disease does not really exist, and for teaching that it is unnecessary and inadvisable to employ approved methods recognized by medical practitioners. Judge Arnold's opinion differs from all others, and is worth quoting: "The charter applied for in this case covers a double purpose—a church and a business. We have power to grant a charter for a church, but we have no authority to grant a charter for a corporation for profit, that is, a business corporation. That the application is for a charter for a corporation for profit is shown by the statement in the proposed charter that the purposes for which the applicants desire to be incorporated are 'to establish and maintain a place for the support of public worship and to preach the gospel according to the doctrines of Jesus Christ,' as found in the Bible and the Christian Science text-book, 'Science and Health, With Key to the Scriptures,' by Mary Baker G. Eddy. What the gospel according to the doctrines found in the Christian Science text-book is, is shown in an article signed by Mrs. Eddy and published in the Christian Science Journal of March, 1897, in which she has written that the Bible and a book written by her called 'Science and Health, With Key to the Scriptures,' and my other published works are the only proper instructions for this hour. It shall be the duty of all Christian Scientists to circulate and to sell as many of these books as they can. If a member of the First Church of Christ, Scientist, shall fail to obey this injunction it shall render him liable to lose his membership in this church.' This shows that the so-called church is a corporation for profit, organized

to enforce the sale of Mrs. Eddy's books by its members, which is a matter of business and not of religion. As the courts have no power to charter such a corporation, the application for a charter is refused."

#### CHICAGO.

**Thousands for Charity.**—The will of Oscar Rosenthal, filed September 13, gives Michael Reese Hospital, Alexian Brothers' Hospital, Chicago Home for Incurables, and National Jewish Hospital for Consumptives, each \$1,500, and \$7,500 to the United Hebrew Charities.

**New Insane Asylum.**—A great institution is to be erected near Chicago. There is to be built within an hour's ride of the city an insane asylum modeled after the Bloomingdale institution of New York, the Pennsylvania hospital for the deranged in Philadelphia and some of the other asylums in the Eastern states. The plan for the institution has been under discussion quietly for some time, but the recent criticism passed upon the management of nearly all the State asylums brought matters to an issue. A large sum of money has been pledged by wealthy citizens for the establishment of the asylum, and many of the city's leading physicians are interested in promoting the work. Among these physicians are Drs. H. J. Brooks, D. R. Brower, H. N. Moyer and Sanger Brown. It is the intention to conduct the new asylum as the great hospitals—St. Luke's the Presbyterian and others—are managed. There is to be no profit to any individual. All the money that may be earned or that comes from endowment after expenses are paid will be used for the care of indigent patients, for the enlarging of the institution and for giving the best possible means for the study of pathological conditions, so that each patient may receive individual and constant care looking to his cure—advantages which are not at present afforded in State institutions.

**Typhoid on the Wane.**—At the close of the week there were gratifying indications that the typhoid fever epidemic was abating. The total number of typhoid deaths reported—43—was 12 less than for the previous week, and during the last three days of the week there were only five, one and two, respectively, or a daily average of less than three, as compared with a previous daily average of seven for the six weeks preceding. The decline of the epidemic, as indicated by this decrease in the number of deaths, was further shown by the returns of cases admitted to the various hospitals. In the County Hospital there were only 240 cases under treatment at the close of the week, as compared with 373 the week previous—a reduction of 35 per cent. The decrease in typhoid mortality can not be attributed to improvement in the water-supply; it is due rather to the campaign of education begun by the Department of Health nearly two months ago as to the nature and cause of typhoid and the method of its prevention. Another indication that the height of the epidemic has been reached is the increasing duration of the disease in the fatal cases. The average duration of the sickness in the fatal cases in August was 17 days. During the first 13 days of September it was 22 days, and during the last week it was more than 27 days. As the average period of the incubation of the disease after infection with the poison is two weeks these latter figures show that the infection occurred at least 41 days previous, or in the latter part of July, when the water-supply was greatly polluted.

**Black List in Rock Island and Moline.**—The physicians of Moline held another meeting, September 9,



to complete their plans for the compiling of a black list. Nearly all present submitted lists of people whom they considered dead-beats, and the others are to hand in their lists soon. These names will be arranged in proper form and each physician in Moline and Rock Island will be furnished a copy.

#### GENERAL.

**Tri-State Medical Society of Alabama, Georgia and Tennessee.**—The fourteenth annual meeting of this organization will be held in Birmingham, Ala., October 7, 8 and 9, 1902. Reduced rates on the certificate plan have been granted by the Southeastern Passenger Association from all points in its territory (south of the Ohio and east of the Mississippi rivers). A long list of interesting papers is announced.

**Essays on Prophylaxis.**—The Maltine Company announces that 208 essays on "Preventive Medicine" have been entered in competition for the two cash prizes—\$1,000 and \$500 respectively—which that firm offered last February. These essays are now in the hands of the three judges, Dr. Daniel Lewis of New York, Dr. Chas. A. L. Reed of Cincinnati and Dr. John Edwin Rhodes of Chicago, and their decision is awaited with great interest.

**New Jersey's Sanitarium.**—The commissioner appointed by Gov. Murphy to secure a site for the New Jersey Sanitarium for Tuberculous Disease, has selected the Joseph Fritts farm near Glen Gardner. The tract contains 450 acres, 200 of them woodland. The cleared land is south of the wooded tract, and has a southern exposure and complete protection from north, northwest and northeast winds.

**Tuberculosis in France.**—Statistics recently published by M. A. Rendu show that deaths from tuberculosis in England numbered 85 for every 10,000 inhabitants in 1869. In 1889 mortality from that disease fell to 16.4 for the same number of inhabitants. In France, in the same year, the proportion of deaths from tuberculosis was 33.70 to 10,000 inhabitants. In Germany mortality, which was formerly 34.3 in 10,000 from that malady, is now but 23 in 10,000. It is believed that the greater mortality which still exists in France, despite its more healthful climate, is due to insufficient knowledge and application of the prophylactic measures which have had so large an influence in the control of tuberculosis in other countries.

**Dr. Garnault Again.**—Dr. Baral of the Pasteur Institute says that guinea-pigs inoculated with skin from an arm of Dr. Garnault, who attempted to prove that tuberculosis could be communicated to human beings by animals, and in order to do so had himself inoculated with bacilli from a consumptive cow, have developed symptoms of tuberculosis. Dr. Garnault's book entitled, "Prof. Koch, and the Danger from Bovine Tuberculosis," a volume of 1,100 pages, has met with some adverse criticism, but also with a large amount of praise, at the hands of the French medical reviewers. On the other hand, it forms the subject of a violent attack in a recent number of the *Münchener medicinische Wochenschrift*, which is to a great extent a philippic upon the lack of professional ethics in France.

**From Report of the Commissioner of Education.**—During 1899-1900 there were in the United States a total of 151 schools of medicine, classed as follows: Regular, 121; Eclectic and Physiomedical, eight; Homeopathic, 22. The aggregate wealth of these schools was \$12,462,497, with endowments of \$2,236,087. Volumes in libraries numbered 158,464. Of dental schools there were 54, worth \$1,276,500, with en-

dowments of \$105,000; volumes in libraries, 6,531. Schools of pharmacy numbered 53, worth \$791,042, with endowments of \$19,202; volumes in libraries, 33,719. Veterinary schools numbered 13, worth \$375,000, with endowments of \$5,064, volumes in libraries, 1,000. There were 432 training schools for nurses. The wealth of these schools, figured as pertaining to the hospitals with which the schools were connected, was \$71,549,043, with endowments of \$18,381,190. The total number of students enrolled in all these schools was 48,709.

**Death-Rate in the Army.**—The annual report of the Surgeon-General of the Army, made public at the War Department September 20, says that disease, injury and mortality in the army for 1901 were considerably less than they were in 1900. The death-rate from all causes was 5.29 per 1,000 of strength in Cuba, 6.90 in the United States, 7.81 in Porto Rico and 17.96 in the Pacific islands and China. Deaths from disease constituted only 3.21 per 1,000 in Cuba, 4.68 in the United States and 12.40 in the Pacific islands and China. The mean strengths of the commands were: In Porto Rico, 1,153; in Cuba, 5,297; in the United States, 26,515, and in the Pacific islands and China, 59,526. The report is signed by Gen. Forwood, who retired several weeks ago. He pays a high compliment to Major Walter Reed for his discoveries as to the propagation of yellow-fever germs, saying: "In the army as a whole only 14 cases, one of which was fatal, were reported during the year. All of these occurred in Cuba prior to the precautionary measures taken in consonance with the important discovery made by Major Walter Reed, Surgeon, and his associates, concerning the propagation of the disease by the bites of infected mosquitoes."

**Obituary.**—Thomas H. Phillips, M.D., born at Cannonsburg, Pa., March 25, 1839, and graduated from Jefferson Medical College, Philadelphia, in 1864, died in Canton, Ohio, August 30, 1902. Dr. Phillips was the oldest practitioner in Canton, and became nationally known by being the family physician of President McKinley. Previous to his graduation from Jefferson, Dr. Phillips was an assistant-surgeon in the Civil War, and was with Sherman on his march to the sea. He was widely known as a consultant, and was a member of the Canton Medical Club, the Stark County Academy of Medicine, the Northeastern Ohio Medical Association and the American Medical Association. Members of all schools of medicine attended the funeral services.

Dr. Charles Merritt, aged eighty-nine, died September 21 at the home of his son, Dr. Charles G. Merritt, a dental surgeon living at 134 South Third Avenue, Mount Vernon. Dr. Merritt was a leading physician of Bridgeport, Conn., and had practised in that city for many years. He had been living at Mount Vernon only a short time.

Dr. Charles H. Johnson died this week at his home, 209 Greene Avenue, Brooklyn. He was forty-eight years of age and was a graduate of the New York Medical University and of the Dublin Medical University, Ireland. He had practised medicine in Brooklyn for 22 years.

Dr. Walter Curry, for 20 years a practising physician in New York, died September 20, in Branford, Conn., of acute pleurisy, while visiting friends. Dr. Curry was a brother of Dr. J. L. M. Curry, who was sent by President Roosevelt as special envoy to Spain to represent this country at the coming of age of King Alfonso. He was the attending physician of the late millionaire William Marsh Rice for six months previous to the latter's death, and was to

have been a witness in the proceedings over the Rice estate. Dr. Curry was born in Lincoln, Ga., in 1835. He was educated at the University of Georgia, and was graduated in 1855 from the medical department of the University of Pennsylvania. He served with distinction in the Confederate Army as a surgeon during the Civil War.

## CORRESPONDENCE.

### OUR BERLIN LETTER.

BERLIN, September 10, 1902.

THE FUNERAL OF PROFESSOR VIRCHOW—VACANCIES IN THE CHAIR OF INTERNAL MEDICINE—OPPOSITION TO THE APPOINTMENT OF PROFESSOR SCHWENINGER—THE KOCH-GARNAUTL CONTROVERSY—ADMISSION OF RUSSIAN WOMEN TO THE BERLIN UNIVERSITY.

THE inexpressibly sad, but not unexpected, has come. Rudolf Virchow is dead. Yesterday was his interment. Quiet and peaceful was the end. Like the old warrior, whose life was nothing but fight and conquest, did he only lay down his sword when the grim reaper came to demand his tribute. The city of Berlin, whose growth and prosperity he had seen, and had aided by 43 years of unselfish and untiring service, had him buried from her municipal hall, and eulogies were delivered praising his deeds. Prof. Waldeyer spoke for the University of Berlin, Albert Trager for the Prussian Diet and Mayor Kirschner for the Magistrate of the city. They all lauded Virchow's qualities as a man of science, as a city officer and representative, as a physician and politician, in well-chosen words.

The notables from the scientific world, and the state and city authorities had assembled to pay their respects; but there was a peculiar lack of something, which could be felt but not specified. The entire affair impressed one more as a function, a formal tribute or ceremony, than as the sincere mourning of friends about the bier of their beloved brother and teacher. The functionaries were constrained to bow down reverentially before the achievement of that superior mind; they had to acknowledge the unalterable facts which he brought to light; but his heart, his great democratic heart, which beat until the last for the great common people, they dared not eulogize, because he was the people's tribune, and because liberty, progress and the emancipation of the masses through education had been the motto of his life.

Quite different was the celebration held in the large Workingmen's Club. Here also was a representative assembly, an assembly of the people, who mourned the loss of their teacher, their counsellor and knight, who for nearly half a century had fought their battles with his strong intellect and iron persistency. In this hall every face was sad and depressed; all seemed to feel that they had suffered a severe personal bereavement, that one who was always ready to defend their rights, and always laboring to improve their condition, had been taken from them forever. No orders, no nobility are needed, said the principal speaker, a physician, to put a man like Virchow in the foreground; no statues are necessary to perpetuate his memory; but his image and his deeds are engraved in the people's heart deeper and more lastingly than they could be in marble or bronze.

The second chair of internal medicine at the Berlin University is still vacant, as it has been since the death of Prof. Gerhardt. For a time it looked as if Leube of Würzburg would be the chosen, but it is now declared that a younger man will be selected, possibly Naunyn, as both Prof. von Leyden and Prof. Senator are ad-

vanced in age, and cannot be expected to continue teaching for a great number of years.

Prof. Schwenger, the great medical nihilist, has retired from the chair of dermatology, and has been given that of state medicine and medical history, which was formerly held by the late August Hirsch, the eminent author of works on epidemics. The Berlin medical world—a considerable part of it at least—again felt outraged, and meetings were held and resolutions signed to disapprove the giving of the chair to one who never had worked scientifically in that discipline. Naturally these outbursts of indignation will be for naught, and Prof. Schwenger—who, by the way, is a very amiable gentleman—will take his chair when the semester begins.

Dr. Garnault's attack on Prof. Koch's latest tuberculosis promulgation at the London Congress has been more fierce than wise. In his book of about 1,000 pages he gives a large number of compilations, but very little new matter; he assumes much and proves very little, and he poses before the medical world in a way which, to say the least, is not very dignified. Neither are his arguments scientific. Koch, on the other hand, gives Dr. Garnault all possible chance to talk, and looks at the matter quite stoically, simply saying that the Parisian *confrère* cannot be taken seriously.

The admission of foreign women medical students at the Berlin University has been yearly increasing, and the main contingent has been furnished by Russia. This has for some time caused dissatisfaction in University circles, so that the authorities have had to do something. In consequence the conditions of admission for Russian women students have been made almost prohibitive, and there is no doubt that in the near future severer requirements will be made of all foreigners who seek to enter the University. It is now claimed that the preparatory education of most foreigners who come here for that purpose is not sufficient to entitle them to the privileges of the University.

O. WATERMANN, M.D.

## TRANSACTIONS OF FOREIGN SOCIETIES.

### French.

EXPERIMENTAL RESEARCHES INTO THE PATHOGENESIS OF APPENDICITIS—A NEW FORM OF TACTILE SENSIBILITY: TRICHESTHESIA—IMMEDIATE ANALYSIS OF NERVOUS TISSUE—UNUSUAL CONSTITUENTS IN NORMAL URINE—SPINA BIFIDA TREATED BY RADICAL OPERATION WITHOUT SECONDARY HYDROCEPHALUS—LIGATURE OF THE AXILARY VEIN—FOREIGN BODY CARRIED TEN YEARS IN THE STOMACH—ABDOMINOPERINEAL REMOVAL OF THE RECTUM, FOLLOWED BY RECOVERY—NERVOUS IMPULSE FROM A MEDICOLEGAL STANDPOINT.

THE French Societies, at their recent meetings, investigated a number of important subjects. We present the following as of instructive merit:

J. MAUMUS, at the Academy of Sciences, July 28, 1902, read a paper upon "Experimental Researches into the Pathogenesis of Appendicitis." In order to verify the correctness of the theory of a closed vessel in the pathogenesis of appendicitis, he passed a ligature around the extremity of the cecum in a blue-faced monkey from the Kongo district of Africa, of the species scientifically known as the *cercopithecus cephus*. He was obliged to select this species of the monkey, because it is not until the anthropoid apes are reached that any arrangement of the vermiform appendix comparable to this viscus in man is found. After two days of sickness the animal appeared to recover entirely. On the 22nd day he killed it, and found at the autopsy that there was no lesion whatever of the parietal peritoneum.



In the cecal region he found various modifications, due chiefly to the defensive processes of nature in the formation of adhesions between the cecum and the loops of the neighboring intestines, and hypertrophy of muscular tissue, notably of the circular fibers, which had invaded almost completely the cellularmucous layer of the mucous membrane. Finally, there was a large number of macrophagic cells with microbes in every cell, bodies of a small, cellular nature, which appear to give origin to them. These phenomena are comparable to those which are seen in birds after ligation of the cecum.

VASCHID and PERUSO read a paper entitled "Concerning a New Form of Tactile Sensibility: Trichesthesia." They stated that they could assure the Academy that in regions of the body covered with hair, in addition to the ordinary general tactile sense, there was a special form of sensibility to touch, which they proposed to name Trichesthesia, deriving it from the Greek *Thris*, a hair, and *Aesthesia*, sensibility. In order to gain evidence of this sensibility, they used needles which weighed from .80 to .005 of a gram. By this means they proved that the subject with whom they were experimenting could practically always perceive when irritation was made at the base of the hairs, in the ratio of five out of six attempts. Much less frequently, namely nine in 26 experiments, did they find him to perceive touch when the tip of a hair was irritated. This form of sensibility is practically invariable in the same individual, examined a number of times, after different intervals. It appears to be entirely independent of general sensibility, with which, indeed, it seems to bear an inverse ratio. In short, it is influenced by divers physical factors; namely, the amount of moisture in the air, and also, without doubt, by the mental and nervous condition of the patient.

N. A. BARVIERI addressed a note to the Academy relative to "The Immediate Analysis of Nervous Tissue." By this process of analysis he has succeeded in obtaining three groups of substances; namely, those soluble in ether; those soluble in water and ether, and those which remain behind as residue after these processes. They contain respectively 1.22, 1.40 and 2.15 per cent. of phosphorus.

S. DOMBROWSKI submitted a paper to the Academy concerning certain results recently obtained by him in a method which he has just published. By this it is possible to show in normal human urine 2.50 to five grams of nitrate of soda in every 100 liters of certain ptomaines, especially cadaverine, and even mannite in a proportion of nearly two grams to 100 liters.

PIQUE, at the Society of Surgery, July 30, 1902, on behalf of the operator, P. Delvet, read a paper on "Spina Bifida Treated by Radical Operation, without Secondary Hydrocephalus." The subject was a patient in whom, 15 months before making the report, he had done a radical operation for the cure of the disease, located in the lumbar region. In spite of the danger of hydrocephalus of secondary type, which the Surgical Society has declared to be the rule after such operations, Delvet did not hesitate to interfere, because there was great likelihood of a spontaneous rupture of the pouch. He made a radical operation by means of a cutaneous autoplasty by sliding (*glissement*). The effect upon the young subject of this operation had been very satisfactory, and up to the time of this report there had been no indications of a secondary hydrocephalus.

KIRMISSON, in the discussion, said that in order to appreciate the value of this interference, due regard must be given to various anatomopathological conditions. It is a matter of regret in particular that as a rule histological examinations are not carried out, because it is possible that this operator was dealing simply with a meningocele. If this was the case, it is not a

matter of astonishment that the cure of the spina bifida was not followed by hydrocephalus.

DEMIUN, in behalf of Merial of Toulouse, read a contribution on "The Ligation of the Axillary Vein." The case concerned a report of injury to this large vessel during the course of a clearing out of the axilla for neoplasm of the mammary glands.

The tying of the ligature of the vessel was not followed by any edema of the upper extremity, probably on account of the enormous number of anastomoses which had been described by Kadyi. Demiun stated that he had opened the axillary vein while removing glands broken down from tuberculosis from the axilla. This was followed by enormous hemorrhage. Merial, he observed, does not state whether the nature of the hemorrhage in this case was important or not, which raises the point that possibly the vessel itself had been already partly obstructed by the growth, which would of course gradually promote anastomosis and make a ligature a less serious matter.

CERNE of Rouen reported that he had removed a foreign body which had remained in the stomach upward of 10 years, without having caused any inconvenience to the patient at all appreciable. It was a small spoon. This appears to have remained mobile in the cavity of the stomach, where it did not promote any lesions at all of the stomach wall, so far as the operator could see at the time of removal. The operation was exceedingly simple. A high incision was made, to the right side through the rectus muscle, and near the level of the tenth rib.

HARTMANN, on behalf of the operator, M. Riche, reported a case of removal of the rectum for carcinoma by the joint or abdominoperineal method. This observation was very similar to one recently published by Quénu at an earlier meeting. Recovery from the operation was delayed considerably for several months by suppuration secondary to a damage to the rectum unavoidable during the course of the procedure.

The twelfth annual session of the French Congress of Alienists and Neurologists was held in Enoble, August 1 to 7. GARNIER read a paper on "Nervous Impulse from the Standpoint of Medicolegal Relations." There is no doubt that insanity or impulse of uncontrollable degree is the basis of many crimes, and that which causes interest in them is that this diseased or unbalanced impulse is often conceived quite independently of any condition of delirium. It seems as if though in many cases an indefinite moral condition obtains, which is not accompanied by delirium, but which, by a form of nervous explosion, so to speak, or mental compulsion, becomes converted into a destructive fury. After this outbreak of violence—this motor discharge—there is a period of calm, which is directly similar to a calm following seizures like epilepsy. One finds himself practically in the presence of a nervously undone individual, entirely astonished at his act, and who often shows an unfeigned surprise at finding himself guilty of committing such an act. To such a degree is this true that he hardly recognizes his responsibility, and is more apt to feel that he did it in a condition of delirium. The judge or magistrate, on the other hand, cross-questions the man, and finds a partly or entirely normal mental condition. If, now, the circumstances of the case point towards deliberation on the part of the criminal, the conditions become exceedingly difficult for the expert. It is important, therefore, to recognize that medicine deals with melancholia, for example, without delirium, and regards this disease to be much more moral than intellectual. There seems to be a particular mental dizziness (vertigo) or unbalance in which various acts of homicide or suicide may be carried out almost in the same manner as reflex acts.

**SOCIETY PROCEEDINGS,  
MEDICAL SOCIETY OF THE STATE OF  
PENNSYLVANIA.**

*Fifty-Second Annual Meeting, Held at Allentown,  
September 16, 17, and 18, 1902.*

FIRST DAY—SEPTEMBER 16.

THE President, Dr. Francis P. Ball of Lock Haven called the meeting to order and introduced the Rev. S. G. Wagner, who offered prayer. Hon. F. E. Lewis, Mayor of Allentown, welcomed the members of the society to the city in a short speech, in which he referred to the old family physician of his boyhood days. This man had no competition, as he was the only practitioner in the town, but his good deeds, actuated by conscientiousness, endeared him to all. Following this was the address of welcome by Dr. E. H. Dickenshied, President of the Lehigh County Medical Society, who spoke of the great satisfaction of that society in securing the meeting of the State organization. The natural beauties of the city of Allentown were described and the proverbial hospitality of its people emphasized.

The first session was devoted entirely to the transaction of business, including reports of committees, new business, etc. The report of the Secretary showed a much larger increase in membership during the past year than during the year preceding, the members now numbering 3,518. The committee to examine school text-books scored the present books on physiology and hygiene in no uncertain terms. The statements regarding alcohol and tobacco in particular present such a distorted and perverted treatment of facts that they should not be taught to children. The committee recommended that the selection of such books be made by medical men.

Many changes in the by-laws of the society were recommended by the committee which had been considering this matter during the past two years. The articles were finally adopted as a whole.

The State Examining Board gave the results of the two examinations held since the previous meeting of the society. A gratifying advance in the standard of medicine in Pennsylvania was reported. The colleges of the State, as regards the averages attained by their graduates before the State Board, rank in the following order: University of Pennsylvania, Woman's Medical, Jefferson, Medico-Chirurgical, Western Pennsylvania. At the opening of the afternoon session the scientific work of the meeting began.

**The Ability of the Eye to Withstand Effects of Injury and Disease.**—Dr. P. J. Kress of Allentown spoke of the effects upon the eye of degeneracy and various local and constitutional conditions. The stomach has more than a reflex influence upon the eye. The phenomena of sympathetic irritation were also discussed. In spite of these many influences the eye is often unaffected as regards its practical use. In regard to the resistance of the eye itself to local disease, the difference between its resistance when the general health is good and when it is bad was well pointed out.

**I. A Case of Bitemporal Hemianopia; II. Optic Cellulitis following Bowman's Operation, with Introduction of a Leaden Style.**—Dr. Walter B. Weidler of Lancaster reported briefly these two cases. The first was that of a woman of forty-one years, who had no history, except that of cerebrospinal meningitis at the age of nineteen, that could be considered of etiological importance. The diagnosis of tumor of the optic chiasm was made, as it was believed that this condition corresponded more closely than any other to the

symptoms present. Case second was a young man who had a condition requiring Bowman's operation. Owing to his extreme sensitiveness, chloroform had to be given during the operation and also during the removal of the style. After 36 hours a severe cellulitis of the orbital tissues developed, which finally resulted in the loss of vision in the affected eye.

**Severe Burn of the Eye and Face by Nitrite of Amyl, with Loss of Eye.**—Dr. Edward A. Shumway of Philadelphia reported this case because of its unique character and as a warning of danger in the drug. The victim of the accident was a man of twenty-five years of age, who used inhalations of amyl nitrite from a bottle to ward off epileptic seizures. On one occasion the convulsion came on more rapidly than usual and a portion of the contents of the bottle was thrown over the right eye and that side of the face. The result was a deep burn of the cornea, causing a slough and the loss of vision, and a severe burn of the face. It was at first supposed that a bottle of acid had been used by mistake, but this proved to be incorrect. A study of the chemistry of the drug showed that the presence of acid in a fresh specimen obtained from a standard firm is out of the question. Exposure to light and air for some time, however, will cause decomposition and the formation of nitric and nitrous acids, which is the probable explanation of the effects in the case reported. Dr. Shumway's conclusions were: (1) Nitrite of amyl should be used only in the form of pearls; (2) if this is not possible, it should be kept in a cool place in a small well-corked bottle; (3) specimens frequently used should be tested often, and, if found to be acid in reaction, discarded.

**Phlyctenular Keratitis Complicating Smallpox.**—The case reported by Dr. Edward Stieren of Pittsburg was that of a colored boy, eighteen, who, in an attack of well-marked smallpox, developed eight phlyctenulae in one eye. On recovering, the site of each phlyctenula was marked by a scar. After a few weeks the patient returned for treatment, five more phlyctenulae having developed in the same eye. They healed under appropriate treatment. Dr. Stieren believes that lesions in the eye during variola are practically the same as on other parts of the body. Many staphylomas persisting after smallpox are described by him as beginning as phlyctenulae. These are infected by the variola, and perforation results.

**Corneal Tattooing.**—The technic of this operation was detailed by Dr. J. L. Borsch of Philadelphia, who thinks that this method is not used nearly so often as it should be in the treatment of corneal opacities. He claims that most writers convey an incorrect idea as to how this operation should be done. The material should not be put on the eye and pricked in by means of four to eight needles in a bunch. It is artistic work and must be done with one needle. Chinese ink, made of the right consistency, with bichlorid of mercury, 1:5,000, should be used. The operation should be done in many stages, and the excess of ink removed by boric acid solution. He obtains very good results, and has never seen sympathetic irritation follow the operation. Sphincterectomy and tattooing will save the eyeball in many cases, and in some will improve vision.

In the discussion, Dr. Wendell Reber of Philadelphia said he used practically the same technic, but had not obtained satisfactory results.

Dr. Richard H. Gibbons of Scranton stated that this method, which was used so skillfully by Drs. Lewis, Agnew and others, should again come into vogue.

Dr. S. D. Risley of Philadelphia had abandoned this method years ago because of the risk of irritation from the introduction of foreign substances into the vessels



which still remained in the diseased tissue. Tattooed eyes look well soon after the operation, but the pigment introduced is later absorbed by the lymphatics and the operation must be repeated. In selected, slightly vascular corneas the operation may be permissible.

In closing, Dr. Borsch said he had neglected to mention that the ink should be combined with carbonate of soda, which makes the color permanent. He has seen results remain perfect during 18 or 20 years.

**Epilepsy as Related to the Ocular Muscles.**—This was the subject of a paper by Dr. Wendell Reber of Philadelphia. He finds that idiopathic epilepsy, so-called, has very often a connection with irritation in some part of the body. A common cause of this affection is some irritative lesion of the visual apparatus. For this reason, a careful study of the refraction should be made in every case of non-focal epilepsy. Correction of errors by glasses will often effect a cure. When they fail, tenotomy may accomplish the end, and should be used as a last resort. Cases in illustration were cited, the epilepsy being changed to a very minor form or entirely cured.

**Chronic Sphenoid Abscess.**—Dr. Lewis S. Somers of Philadelphia said that most cases of this affection were treated as nasopharyngeal catarrh, thus making it appear a much rarer disease than it really is. The symptomatology was dwelt upon at length. The falling of purulent material from the posterior nares is significant. Pain is usually constant and quite often localized in the sphenoidal region by the patient. Ocular symptoms are often present. Examination will reveal pus oozing from the sinus. The case of a man twenty-eight years of age, who had headache for 14 years, was reported. Treatment was effected by irrigation and removal of necrosed bone.

**Removal of the Tonsil.**—Dr. Louis J. Lautenbach of Philadelphia claims that an enlarged tonsil is synonymous with a diseased tonsil. If symptoms are pronounced, the tonsil should be removed for the constitutional effect. He enumerated a long train of symptoms that may be caused by disease of those organs. Removal should be done at once, and in a most thorough manner. The Tonsillotome should be followed by the cautery and, if need be, by scissors, in order that the removal may be made sure and entire.

**Mental Disorders.**—Dr. J. Moorhead Murdoch of Polk spoke on "The Feeble-minded," a subject which he has especially studied for some years. Of the 100,000 feeble-minded persons in the United States there are something like 10,000 in Pennsylvania, 2,000 being in institutions for this class alone. Such treatment is strongly endorsed by Dr. Murdoch, one great advantage being the impossibility of begetting offspring and thus increasing the number of sufferers from this easily transmissible affection. The etiology was discussed at length by the speaker, he having personally examined 800 cases. In 106 of these there was a history of alcoholism in one or both parents; in six there was an ancestral history of syphilis, that condition not being so common a cause as generally supposed; a family history of tuberculosis was present in 79 cases. Among the most common causes after birth are defective nutrition, infectious diseases and the use of opiates when the child is very small, as the employment of paregoric, soothing-syrups, etc. On an average, 25 per cent. of all cases are epileptics; but instead of epilepsy being a cause of the mental defect, both conditions are usually due to the same cause. Medical treatment of these cases is essentially hygienic. Operations on microcephalics have not proven successful, Dr. Murdoch having never seen a patient improve after such a measure had been employed.

Kindergarten and stimulating methods must be employed instead. To this end, feeble-minded children do much better when placed with their like than when mingled with normal children. In the latter case they suffer by comparison, and do not improve so rapidly. They should be sent to these institutions early, at least by the eighth year, and preferably during the fifth or sixth year.

#### **The Treatment of the Insane in Private Practice.**

—Dr. F. Savary Pearce of Philadelphia said that he was becoming more and more optimistic regarding the prognosis in insanity. However, if the benefits from treatment of insane people are to increase still further, psychology must be better understood by medical men. Then many cases now sent to asylums will be treated at home, and often cured. Such cases are: Delusional forms of insanity accompanied by hysteria; depressive types seen most often in women near the climacteric; women exhausted by child-bearing, and who have become morbid; and many cases of sexual insanities. In these cases prognosis is very often favorable, and after a few months' rest at home, forced feeding, massage, hyoscin during excitable periods, etc., they are cured. The chronic insane, violent cases and many others are, of course, better treated in asylums.

**Physicians as Expert Witnesses.**—This was the theme discussed at the evening session by former Judge Edward Harvey of Allentown, after he had most heartily and wittily welcomed the society to that city. He defined an expert as a person of large experience and extended knowledge of the arts, or business, or the sciences. The value of expert testimony varies with the experience of the witness, and this must be actual experience. Facts gained by reading are of no value in court. Any person could become an expert in any branch if that were allowable. Judge Harvey then mentioned three points on which he wished, in a friendly way, to criticize physicians as expert witnesses: (1) Their statements regarding excessive severity of lawyers in their examination of witnesses. Lawyers are never severe if a witness is really an expert and is endeavoring to enlighten the court on the point in question. It is only when the witness evades the point at issue, or seeks to raise one of his own, or when in his ignorance he makes conflicting statements, that the lawyer becomes severe. (2) The disagreement of experts weakens the value of their testimony. Witnesses may see only one side of a question—that on which they are paid—and this will lead to conflicting statements. If questions of doubt are raised, as in the matter of insanity, different views are to be expected, but in ordinary questions of fact they should not occur. (3) Physicians as expert witnesses should not use technical terms that the court and jury cannot understand. This is not done by eminent scientists, the use of these terms being generally in direct proportion to the ignorance of the witness.

**The Annual Address.**—This address was delivered by the President, Dr. Francis P. Ball of Lock Haven, who took as his subject the antagonisms to the advance of scientific medicine. The antagonism of theologians of the past was considered at length. Among the points taken up were the treatment of the insane and opposition to the overthrow of witchcraft and to the study of anatomy by dissection. Now theologians are the most loyal supporters of medical men. Oppositions met in present-day advances were then discussed, among them being that of vaccination and animal experimentation. The entire subject was treated chiefly from the viewpoint of the layman.

SECOND DAY—SEPTEMBER 17.

**Address in Medicine.**—This address was delivered by Dr. A. O. J. Kelly of Philadelphia, whose subject was "Medical State-Board Examinations and Interstate Reciprocity." Dr. Kelly said that existing laws in many instances hampered regular practitioners and allowed much freedom to irregulars and quacks of all descriptions. Under the ridiculous state of affairs now existing a man may be a doctor in one State and not in another. Two avenues of relief are open: I. Reform in the method of conducting State examinations. II. Interstate reciprocity. Regarding the first point, many reforms are possible. Some objections to present State-board examinations are: (1) The inanity and asininity of many of the questions propounded. Dr. Kelly gave a long list of these as illustrations of his statement. He would have the questions in all fundamental branches confined strictly to the practical aspect. (2) Examinations are wholly written. These cannot be a true test of a man's ability to practice medicine. Candidates should be asked to examine patients, make diagnoses and prescribe treatment. Practical laboratory tests should be a part of the examination. (3) The same questions are put to recent graduates and to old practitioners. This is unfair, especially to the latter. To obviate this, there should be a recent graduates' examination and a practitioners' examination. As to the second point, there are two methods under discussion—nationalization of examining boards, and interstate reciprocity. The former, typified by Dr. Rodman's suggestion of a voluntary examining board, is admirable in theory but impossible in practice. Interstate reciprocity should be inaugurated as a settlement of one phase of this vexing question. The confederation of the State boards of Indiana, Illinois, Wisconsin and Michigan is a step in the right direction. The action of the Maryland State board can also be commended as a substitute for reciprocity.

**Unilateral Renal Hematuria.**—Dr. Augustus A. Eshner of Philadelphia reported a case of this affection. The patient was a girl of twenty who had had hematuria since the age of eight. Symptoms of calculus of the right kidney were so pronounced that operation was made for that condition, after examination of the urine showed the presence of calcium oxalate crystals, red blood-cells, albumin and granular casts. Operation disclosed an apparently normal kidney. The wound was closed and healed promptly. Barring bloody urine for a few days following the operation, there has been permanent disappearance of the symptoms and of the hematuria since that time, now a period of two years. After operation a few concretions containing oxalates and cystin were passed, but they were made up mostly of blood-clot and are supposed to have had no connection with the subsidence of the kidney condition. The cure may be explained in two ways—the dislodgment of minute calculi by manipulation of the kidney, or a change in the circulation of the organ. However, neither is a satisfactory explanation. Dr. Eshner gave the analysis of 47 similar cases collected from the literature. Of these 31 were females. Ages ranged from eighteen to seventy-six years.

In the discussion, Dr. A. O. J. Kelly of Philadelphia said he considered these cases to be of not infrequent occurrence. A case similar to the one under discussion had been operated upon ten years ago with perfect cure. In one case reported by a German writer, autopsy revealed a telangiectatic condition of the pelvis of the kidney. This may be the cause in some cases.

Dr. E. B. Martin of Philadelphia said that one kidney may be diseased and one healthy in a number of con-

ditions. Unilateral hematuria may be due to a special vulnerability of the one organ. He thinks the curative effect of operation in these cases is mainly due to the fixation of the kidney resulting therefrom.

**The Surgical Treatment of Gastroptosis.**—This was discussed by Dr. H. D. Beyea of Philadelphia, who advocates, in cases where medical and mechanical treatment fails, a surgical procedure devised by himself. This consists in shortening the gastrohepatic and gastrophrenic ligaments by means of sutures, thus elevating the stomach. He had operated on three cases, and reports four others from ligature. In all of them the symptoms have been greatly ameliorated or entirely removed. This operation is considered superior to a similar one of other operators, in which the stomach is anchored to the parietal peritoneum or even to the ribs. This interferes too much with the natural mobility of the organ.

**Pericardial Effusion as a Terminal Infection in Chronic Interstitial Nephritis.**—Dr. H. B. Allyn of Philadelphia reviewed at length the literature of this subject, especially Dr. Simon Flexner's work on "Terminal Infections," and reported briefly a case that came under his charge. The patient was man of twenty-six, with marked chronic interstitial nephritis, who came to the hospital showing the signs of pericardial effusion. By aspiration 44 ounces of bloody serum was obtained. At autopsy the bacillus coli communis was obtained, this probably being the infecting agent. The fluoroscope is a valuable diagnostic aid in cases of pericardial effusion.

In the discussion, Dr. A. O. J. Kelly of Philadelphia said that pericardial effusion was not uncommon in cases of chronic interstitial nephritis, but there was a question as to the propriety of calling it a terminal infection. Infection may be the cause of the effusion, or it may come afterwards as a preagonal or postagonal condition. Effusion in these cases is often latent and is not detected unless frequent routine examinations of the chest are made.

**Infantile Scurvy.**—A case with fracture of the femur and multiple epiphyseal separations in a child a few months of age was reported by Dr. T. J. Elterich of Allegheny. Common symptoms of scurvy were not present, but the diagnosis was made mainly from the swellings and epiphyseal separations. Recovery followed.

**Hydrotherapy in Diseases of the Heart.**—On this subject an admirable paper was read by Dr. S. Solis Cohen of Philadelphia, who emphasized the point that the relief and cure of some cases of cardiac disease can be carried out at the patient's home by any physician. A trip to European spas is not an essential in many cases. By supplying heat or cold, water may be made to diminish or increase both the vigor and rate of cardiac contractions. A tonic contraction or a passive dilatation of peripheral vessels can be determined to an almost measurable degree of accuracy. Water is used internally and externally in several different ways. Among the best of the latter is the Nauheim bath, which can be prepared at home with the aid of materials easily purchased. Dr. Cohen considers the ice-bag or Leiter's coil placed over the precordium to be the best preventive of cardiac failure in typhoid fever and similar conditions. Their use is much better than the giving of alcohol. One case of typhoid fever now under treatment, a confirmed alcoholic, has had no alcohol during the course of the disease. Hot water should be used first and then quickly cooled with ice. Use at first from 10 to 15 minutes three or four times a day. Use longer if necessary. Get results. For failing compensation in



valvular disease the ice-bag is of great value, and also affords diagnostic and prognostic aid. Where myocardial degeneration is hopelessly advanced the application of cold is attended by bad results and cannot be used. If enough good muscle is present to respond the prognosis is more favorable. Hydrotherapy does not cure valve lesions, but it may postpone the necessity for using digitalis or other drugs. The application of cold to the cervical spine is often of more value in functional disturbances of the heart, as in exophthalmic goiter, than its application to the precordium. Water internally for the relief of dropsy may seem paradoxical, but it can be made to produce this effect by allowing the patient to drink only at intervals of four to six hours, and then fully satisfying his thirst. Hypodermoclysis of small amounts slowly given may produce the same effect.

**Election of Officers.**—The committee on nominations recommended the following persons as officers for the ensuing year, and they were unanimously elected: President, Dr. William M. Welch of Philadelphia. Vice-Presidents—First, Dr. H. H. Herbst of Allentown; Second, Dr. G. F. Bell of Newberry; Third, Dr. G. W. McNeal of Allegheny; Fourth, Dr. S. P. Heilman of Lebanon. Secretary, Dr. C. L. Stevens of Athens; Assistant Secretary, Dr. T. B. Appel of Lancaster; Treasurer, Dr. G. W. Wagoner of Johnstown. The next annual meeting will be held at York.

Appropriate resolutions on the death of Dr. W. Murray Weidman of Reading were presented by a special committee, and adopted. Dr. Weidman was an active worker in the society, a successful physician and a whole-souled, genial man. The society keenly feels his loss. Tributes to his memory were paid by Drs. Guthrie, Cohen and Bishop.

**Address in Hygiene.**—This address was delivered by Dr. Edgar M. Green of Easton, who discussed the care of tuberculous patients, the water-supply, the handling of smallpox and the teaching of hygiene in schools. The renewed interest shown in the case of the victims of tuberculosis in Pennsylvania is one of the strongest evidences of the advance in hygiene in the State. Much is yet to be done, especially in the proper disinfection of sputum. Lysol or formaldehyd in ten per cent. solutions is effective. Corrosive sublimate solutions must be at least 5 to 1,000, and must be in contact with dried bacilli for hours. Contraction of tuberculosis from railway carriages is a much greater danger in Europe than in this country. Regarding the water-supply of cities, the conditions remain practically the same. Under present laws municipalities have very few rights, and pollution of streams is easily possible. The general public still needs education regarding smallpox. The compulsory school and the law requiring vaccination of school children are conflicting. If a child be not vaccinated it is kept out of school, thus rendering inoperable the compulsory school law. A general compulsory vaccination law is needed. The law requiring the teaching of hygiene in the public and high schools every day causes a repetition of this subject which becomes very distasteful to the pupil during his school-life. The law should be modified and a higher grade of books supplied.

**The Unity and Intercommunicability of Human and Bovine Tuberculosis.**—Dr. M. P. Ravenel of Philadelphia gave a brief summary of experiments made to determine the truth of the above statement. These experiments have proven indisputably that this is true, and that Koch's postulates were wrong. The claim of the unity of the disease in man and animals is based on several points: (1) A study of cultures of

each, old tubes of which cannot be differentiated from each other; (2) the changing of human tubercle bacilli into the bovine form by passing them through several series of animals, this change in form being true as regards cultural characteristics, morphology and pathogenicity for small animals; (3) the gross pathology of the lesions, and (4) their pathological histology. The intercommunicability of the human and bovine varieties was proven by transmission from man to animals by means of ingesta of sputum and also by inoculation. Of the latter Dr. Kavenel has four cases. The human bacillus from mesenteric glands, when introduced into cattle intraperitoneally or intravenously, caused their death in from 17 to 27 days. An interesting point brought out by experiments with animals, and also by human postmortems, is that the tubercle bacillus can pass through the intestinal tract of man and set up its characteristic changes in the tissues of the body without having left a trace of its entrance in this manner. Experiments with swine demonstrated that the tonsils may be the point of entrance for the bacilli. Dr. Ravenel closed by saying that the chief means of the transmission of tuberculosis is the sputum of affected persons, but that children should also be protected from infection by the destruction of all tuberculous cattle.

**Recent Discoveries in the Domain of Etiology.**—Dr. D. H. Bergey of Philadelphia reviewed the progress of bacteriology in the determination of the causes of disease. Late investigations point to the probability that some of the infectious diseases, of which the causes are yet unknown, may be due to the presence of animal parasites. His own investigations have convinced him that variola is thus caused. The parasite belongs to the class of sporozoa. Vaccinia is caused by the same parasite in a modified form. Experiments are not yet completed, but have shown that it has both sexual and asexual modes of development.

**The Treatment of Infectious Diseases.**—Dr. Adolph Koenig of Pittsburg said that in all infections there were fundamental conditions inseparable from the disease, and there should be like principles in treatment. He thinks that treatment of infectious diseases has not advanced equally with our knowledge of such diseases, treatment being yet largely symptomatic. The cause, where known, or the principal effect of the cause, should be aimed at. Hence the elimination of toxins is the great desideratum in these conditions. The purpose of the paper was not to enter into details, the only point made in that line being the value of water given internally in large quantities during the course of scarlatina and similar diseases. Aerated distilled water is his preference. More powerful diuretics may also be employed.

In the discussion, Dr. Seneca Egbert of Philadelphia said that physicians had been taught of late years the impossibility of disinfecting the intestinal tract in typhoid fever and other diseases, until many had gone to the opposite extreme of not making the attempt. In all cases antiseptics should be employed to keep the infection at the minimum point, whatever that may be.

**Typhoid Fever Epidemics Caused by Infected Water and Milk.**—Dr. J. C. Gable of York presented this paper. It was a description of the conditions which made possible the epidemic of 453 cases of typhoid in York a few years since.

**An Outbreak of Smallpox.**—Dr. A. R. Craig of Columbia said there was yet much to do in getting the masses to realize the efficiency of vaccination. Even the authorities of towns do not appreciate this fact, as will be found to the cost of many when cold weather increases the existing smallpox. An outbreak of small-

pox in Columbia, where there is no hospital for contagious diseases, was combated with quarantine, disinfection, etc., because vaccination was expensive and met with opposition. The disease continued to spread until the authorities, finally forced to do so by the united medical profession of the town, ordered compulsory vaccination. The epidemic was wiped out at a cost from that time of \$1,333. Previous to this the town had spent \$6,240 in ineffective measures. The writer stated that it would be well if the State or local boards of health were empowered to appropriate at once in these cases money enough for properly carrying on measures to suppress the disease until the civil authorities awoke to the situation.

In discussing this paper, Dr. Jay F. Schamberg gave the experience of Philadelphia in the matter of quarantine. At the beginning of the present epidemic of smallpox routine quarantine of from 15 to 18 days was imposed at each house where the disease was discovered. This was not found effective and was seen to have several disadvantages: (1) Exposed persons in these houses would escape before the quarantine was placed, and would thus spread the disease; (2) there was lessened incentive for patients to go to hospitals; (3) the method was very expensive. Later a quarantine of two or three days, with disinfection, vaccination and removal of the patient to the hospital was adopted with much better results.

Dr. R. H. Gibbons of Scranton said that medical students should have instilled into their minds the duty of vaccinating children. The operation should be taught by the chairs of surgery, medicine, pediatrics and obstetrics. No student should be allowed to attend a case of labor without seeing that the child was afterward vaccinated.

**Urinalysis in 100 Cases of Smallpox.**—This paper by Drs. W. M. Welch and Jay F. Schamberg of Philadelphia was read by the latter. It was based on a study of 128 cases, 1,088 specimens of urine being examined. The results occasioned no surprise, as it was only reasonable to expect some kidney affection in a disease where, by actual calculation, there were from 30,000 to 40,000 pustules on the body, and the formation of probably five quarts of pus. Albumin was found in the urine in 66 per cent. of cases of variola and in 60 per cent. of cases of varioloid. In from 28 per cent. to 50 per cent. casts were present. The percentage of cases showing casts and albumin was much higher in the series of fatal cases, 30 of 38 having albumin, and 19 of 38 having casts. Albumin generally appears about the fifth day of the eruption, but both albumin and casts may appear late in the disease. The urine from these patients often presents marked differences from day to day.

**Food-Adulterations.**—This was the subject of an interesting address given Wednesday evening by Hon. John Hamilton, Secretary of Agriculture of Pennsylvania, who stated that food-adulteration had really begun and proceeded hand in hand with civilization. Enough statistics were given to show the actual state of this deception in Pennsylvania. During the two and a half years ending July 1, 1902, under the auspices of the Dairy and Food Department 3,023 samples of butter were analyzed, only 103 of them being on the market as oleomargarin, and only 61 as butterin. Of these samples 1,019 were found to be butter, 164 renovated butter, and 1,840 oleomargarin. During the same period 1,369 articles of food, including nearly every solid and liquid form, were analyzed, and 783 of them found to be adulterated. More work in this line has been done in Pennsylvania than in any other three States. Four persons are responsible for the control of the food-supply—the man-

ufacturer, the jobber, the retailer and the cook (or the cook's employer). The kitchen causes much disease. Secretary Hamilton believes that the company kitchens, or rather the sinks, are responsible for much of the sickness in soldiers' camps. He would abolish these kitchens, have men mess in fours, use no dishes, eat with a combination knife, fork and spoon out of the vessel in which the food is cooked, and disinfect this vessel by turning it bottom side up over the fire after each using. Physicians must reform kitchen affairs. The furnishing of pure food depends on two agencies—the law and the work of practising physicians. It was stated that many cases brought to court had been lost by the Department because of the conflicting testimony of physicians. Some would testify that certain substances were injurious to health. Others would give an opposite opinion. And the jury every time would believe the latter. The great responsibility of the State Medical Society in this matter was pointed out, and its earnest cooperation solicited.

#### THIRD DAY—SEPTEMBER 18.

**Infant-Feeding.**—In this paper Dr. Adelaide M. Underwood of Lancaster gave very careful instructions regarding the care of infants from birth, their hygienic management, bathing, etc., being detailed. Where mothers are unable to supply nourishment wet-nurses should be secured if possible, their selection being governed by certain rules that should be closely adhered to. The next substitute is artificial feeding, which was considered at some length.

**Home Modification of Milk.**—Dr. Alfred Hand, Jr., of Philadelphia read an excellent paper on this subject. Many difficulties met with in infant-feeding may be avoided by studying the needs of each infant individually instead of following a routine method. Good clean milk can now be obtained in most places at a cost of about 12 cents per quart, and this can be modified according to the percentages of fat, sugar and proteids desired. Actual estimation of the fat should be made at intervals, especially when the child fails to make a weekly gain. Dr. Hand prefers sterilization to Pasteurization when heat is necessary. Very satisfactory results were reported, the cases being illustrated by weight charts.

**Address in Surgery.**—Dr. George D. Nutt of Williamsport gave a cursory review of the progress made in surgery during the past year, stating that no important discovery had been made, advances being more along the line of improvement in technic, preparation of patients, occlusion of vessels without the use of ligatures, the administration of anesthetics, etc. The practice of surgeons (especially leaders or teachers) in publishing new operations or modifications of old ones before they have been fully tried by experience was strongly condemned. The numbers of articles on leading subjects published during the year were given, among them being 158 on carcinoma and 260 on appendicitis. Despite the latter, the question of appendicitis remains as unsettled and indefinite as it was five years ago, there being no common ground of agreement. He believes that every case must be taken by itself and treated as the observer's experience dictates. The resistance of the organism in defending the abdominal cavity from infection must not be forgotten. A point emphasized was the unreliability of statistics. Dr. Nutt makes three classes of cases: (1) Light attacks; (2) explosive attacks, with pus formation; (3) where general peritonitis is present. This last is more than appendicitis, and is in a class by itself, the mortality being from 40 to 50 per cent. The first two can be



classed together with a mortality of not over six per cent.

**Carcinoma of the Mammary Gland.**—Dr. William L. Rodman of Philadelphia emphasized several points in speaking on this subject: (1) The necessity of recognizing the anatomy of the lymphatics of the breast—of which there are least five sets—since metastasis internally or externally, as the growth is in the inner or outer half of the breast, bulging of the sternum in some cases, more rapid progress in some, etc., are thus explained; (2) the importance of early diagnosis, of value in making which are (a) age of the patient, 70 per cent. of cases occurring after fortieth year, (b) locality, malignant tumors generally being in the outer half, (c) fixing of tumor, (d) dimpling of skin, (e) lateness and unreliability of pain, (f) retraction of nipple, occurring in only 52 per cent; (3) prognosis, showing the disease to be more quickly fatal in young persons, and when situated in inner half of breast and when also in the right breast; (4) treatment, in which Halsted's operation is the best, with the addition of Warren's expedient for covering the large surface in some cases; (5) ultimate results, wherein 50 per cent. should be cured, while, as the surgeon sees them, not over 33 per cent. of cures can be expected, though all that can be done in the way of operation is being done now, and improvement must come from early diagnosis. Every tumor of the breast, Dr. Rodman thinks, should be operated upon early. Diagnosis by frozen sections will aid in deciding what to do in doubtful cases.

In the discussion, Dr. Henry Beates, Jr., of Philadelphia said that the remarks made concerning the lymphatic systems of the breast emphasized his contention that a course of anatomy as applied to medicine should be in the curriculum of medical schools. Not surgical or topographical, but medical anatomy is meant by this statement.

**Empyema: A New Method of Drainage.**—Dr. Leon Brinkman of Philadelphia described this method, which is a modification of the one originally suggested by Skene, and does away with the necessity of drainage-tubes. A portion of one or more ribs is excised without going through the pleura, and that membrane is then stitched to the skin. Convalescence is much shortened by this method. Dr. Brinkman has employed it in 22 cases, 21 of which recovered. Chloroform anesthesia is employed for the operation.

**Polypoid Growths in Childhood versus Rectal Prolapse.**—Dr. Lewis H. Adler, Jr., of Philadelphia spoke of the mistakes in diagnosis between these two conditions. He finds nearly double the number of cases of polypus as compared with prolapse. Many cases go on to spontaneous cure. Diagnosis is usually easy if an examination is made. Treatment is removal. The clamp and cautery may be used, but will be found rather formidable. The simplest method is torsion. When the polypus is sessile ligatures must be applied.

**Treatment of Spina Bifida.**—Dr. William V. Laws of Philadelphia reported two cases of spina bifida operated upon, one being successful. It is best to apply the rules for dealing with hernia in these cases. No good results from injection of fluids have been seen by him. Nichol's is the best operative procedure. The fatal case reported was a child of ten weeks, the sac containing many nerves. The other was seven months of age, the sac being as large as the child's head, but containing only one nerve. This was loosed and the sac ligated and cut. Recovery was complete.

In the discussion, Dr. Rodman of Philadelphia said he had no faith in injection methods. Diagnosis is usually easy, but one condition may puzzle the best surgeon.

The lumbosacral region is a favorite location of lipomata, which are easily diagnosed in pure cases. When a mass of fat overlies a small spina bifida the latter may not be recognized until cut into.

**Gunshot Wounds of the Stomach, Liver, Lungs and Head; Operation; Recovery.**—Dr. G. W. Waggoner of Johnstown reported a rare case. The man was a foreigner, and, in deference to his wishes to see a priest, some three hours elapsed after the injuries before operation. Two perforations of the stomach were found, on the anterior and posterior surfaces, the abdominal cavity was full of blood which came from a perforation in the right lobe of the liver, and the lower lobe of the right lung was perforated. The liver was packed with gauze, and finally, after several attempts, the hemorrhage was controlled. The wound of the lung was packed, the wounds of the stomach closed, and the man returned to the ward. Thirty-six hours after operation abdominal distention began, and magnesium salts were given hourly with no effect. An alum enema proved effective in relieving the condition. No nourishment was given by the mouth for four days. On the sixth day the packing was removed, no hemorrhage resulting. On the 24th day the patient was anesthetized, and some necrotic bone was removed from around the frontal sinus where one bullet had struck. This was well borne, and the patient made a good recovery. Points of interest were the use of equal parts of hydrogen peroxid and glycerin to soften the packing for some time before it was removed; the effect of the alum enemas, and the stimulating effects of enemas of coffee.

In the discussion, Dr. Estes of South Bethlehem reported a case of attempted suicide in which a load of shot had passed through the stomach and spleen and riddled the left kidney, which was removed. Recovery followed. This he thinks was due to drainage at the most dependent point.

Dr. La Place of Philadelphia emphasized the importance of susceptibility to infection, which is really the deciding point in these cases. Patients having great wounds recover, and in other cases a slight lesion causes death. The mechanical principles of surgery may not be to blame in many of these fatal cases.

**Electrothermic Hemostasis.**—D. A. J. Downes of Philadelphia exhibited improved instruments, and described the technic of this method of controlling hemorrhage. It still gives good results in his hands, and is strongly recommended for general use.

**Röntgen-Ray Treatment of Cancer.**—Dr. Charles L. Leonard of Philadelphia spoke of the use of this agent in the treatment of inoperable malignant growths, the only class of cases in which he employs it. The combination of operation and the use of the X-ray is probably the best method in many cases. The results obtained may not be called cures as yet, owing to the time; but the improvement has been very great. The effect of the X-ray upon normal tissue is both stimulating and alterative. On tissues of low vitality it is alterative. Before healing in lupus and rodent-ulcer there is a breaking down of the tissues, and there may be a retrograde metamorphosis ending in fatty degeneration. He thinks the X-ray is a medium for transmission of electricity. A reaction of the tissues is not necessary for therapeutic effect.

**Report in Cases of Malignant Disease Treated by the X-Ray.**—Dr. W. S. Newcomet of Philadelphia reported the cure of an epithelioma of the orbit of 22 years' duration. In several inoperable recurrent carcinomas of the breast great improvement has been noted.

In the discussion on the X-ray, Dr. Guthrie of Wilkes-barre said that efforts should be made by physicians to

combat the growing popular belief in the efficacy of the X-ray. The laity will depend too much on its influence, and will refuse operation in cases that absolutely demand it.

Dr. Shoemaker of Philadelphia said that he does not treat cases with the X-ray, but sends them to men who know how to use it. There should be an expert in the use of this agent in each locality to whom can be sent cases for treatment.

Dr. Thompson of Scranton reported the results of Dr. Prices's work in that city with sarcomata. A sarcoma of the neck, three times recurrent, was removed and the surrounding enlarged glands exposed to the X-ray. They disappeared, and cure is apparently perfect. The same course was pursued with two sarcomas of the jaw. Neither recurred. In one other recurrent case the X-ray had no effect except to increase the pain.

In closing, Dr. Leonard said that the best results appear to be in cases of simple sarcoma and epithelioma. In one recurrent lymphosarcoma of the neck the X-ray seemed to stimulate the growth, which progressed very rapidly.

**Penetrating Wound of the Heart.**—This case, occurring in September, was reported by Dr. John H. Gibbon of Philadelphia, the patient a man twenty-five, who had received a stab-wound of the chest, and in whom the symptoms permitted the diagnosis of penetration of the heart without injury of the pleura. The question of taking time to fully sterilize the hands and the patient in such a case came up, but the usual time was taken. Operation showed a wound of the heart, which was closed by the end of a finger while a costal cartilage was resected. A suture to draw the wound into view and also to stop hemorrhage was passed. The heart, which was very irregular and feeble, then ceased beating, and efforts to cause it to resume beating were futile. Autopsy showed the wound to be in the right ventricle, below the pulmonary orifice.

**Address in Obstetrics.**—This address was delivered by Dr. J. M. Baldy of Philadelphia, who spoke first of the trend of general surgery towards usurping the place of the gynecologist. This should not be, as very many general surgeons have not grasped the principles of gynecology. They claim to be able to do these operations because they do not differ from other surgery which is known by them. The very fact of their claiming that all is known, is proof that gynecological patients should not be entrusted to them. Cancer of the uterus was considered at some length. The various theories of its origin were discussed, and the following conclusions were reached: We do not know what cancer is; we do not know the cause of cancer; we do not know a cure for cancer. Any case operated upon cannot be called a cure under six years. Dr. Baldy sees no reason for changing his statement of last year, that only five per cent. of cases of cancer of the cervix are cured. With our present knowledge of cancer, early diagnosis is the only hope of cure. He looks to the pathologist as the one to determine the cause of cancer.

**Abdominal Extra-Uterine Pregnancy at Full Term.**—Dr. W. L. Estes of South Bethlehem reported this case and exhibited the child, a healthy infant some months of age. The patient was a woman of thirty. Six weeks after becoming pregnant she had some abdominal pain, which lasted for a short time and then disappeared, the pregnancy advancing without untoward symptoms. A short time after term the woman, while reaching, felt something give way in her abdomen. When she was brought to the hospital the child was found to occupy a transverse position. Laparotomy showed the sac attached to the colon and partly behind the small intestines, having ruptured on the left side,

The child was delivered and did well, the mother dying later of sepsis. The condition of the broad ligaments was such as to prove that the pregnancy had been tubal, and rupture had allowed the fetus to escape into the abdominal cavity. The broad ligaments were free, and a small depressed scar was present about the middle of the left tube. Dr. Estes also showed an ovum from another case. This had been found free in the abdominal cavity after rupture of a tube. These cases prove the fallacy of the old teaching that such pregnancies must be intraligamentary.

**Incision in Appendicitis.**—Dr. R. H. Gibbons of Scranton read this paper, which was a minute anatomical description of the method advocated by McBurney and Wier. He commends it highly as preventing the occurrence of hernia. The incision can be readily enlarged if necessary, in spite of contrary statements.

In the discussion, Dr. La Place of Philadelphia said that the McBurney incision would do in cases that had no pus. But it often happens that there is pus when not suspected. In that case the muscles can be cut through. The incision then, depending on the condition present, is made over the appendix or over the abscess. In the latter cases hernia must always be a secondary consideration.

Dr. M. Price of Philadelphia said that in operating for appendicitis the question of moment was not the incision, but the treatment to be instituted after the incision is made. There is danger of hernia through any incision when drainage is employed, and this has been necessary in all but five or six of 200 cases. Yet only three or four have returned with a hernia.

Dr. Noble of Philadelphia prefers the incision through the rectus muscle, as hernias are less apt to occur (he has never seen one), and would be easier to cure if they did occur.

**Danger Point in Appendicitis.**—Dr. Ernest La Place of Philadelphia said that the danger in this disease begins with its very inception. It is very uncertain from the location of the appendix; because abdominal pain is often not referred to the point from which it originates; because there is no germ present in the foulest case that has not been present from the beginning. The virulence of germs depends upon the susceptibility of the patient. No one can fortell the degree of this. Hence appendicitis is the most anomalous of all diseases. Medical cures are not permanent cures. Operation is the only remedy for the disease. A point to be remembered is that in every fatal case there was a time when operation would have saved the patient's life. In discussion, Dr. Baldy started an animated discussion by saying that such remarks were nonsense; appendicitis is a perfectly plain disease; many cases recover without operation, and it is safe to wait for a time in such cases before deciding on operation. In many cases we can tell absolutely whether suppuration is going to follow or not.

Exceptions to this statement were taken by several speakers, who regarded this as very dangerous teaching.

**The Role of Cystoscope.**—Dr. C. P. Noble of Philadelphia pointed out in a general way the benefits derived from the use of the cystoscope. Several of these instruments, with batteries, were shown to demonstrate their simplicity. By their use former views regarding inflammation of the bladder have been changed, the vesicle of the ureter being the only part involved in some of these cases. Astringent solutions can be applied directly to the seats of lesion by means of this instrument, tumors and stone of the bladder located, and disease of the bladder differentiated from those of the ureter and kidney. Four illustrative cases were detailed.